The Journal of the American Medical Association

VOL XXXI CHICAGO, ILLINOIS, SEPTEMBER 3, 1898 No 10

ADDRESSES

THE INFLUENCE OF AGE, SEX AND RACE IN SURGICAL AFFECTIONS

Address of the Chairman of the Section on Surgery and Anatomy, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo, June 7-10, 1898

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Gentlemen of the Section —Allow me first to express my grateful appreciation for the honor conferred upon me at the Semi-Centennial Meeting To be chosen as Chairman of this, the largest Section of the ASSOCIATION, is indeed an honor any one should esteem highly

I have endeavored, with the aid of the distinguished Secretary, Dr Parkhill, to present to you as attractive a program as has ever been offered to this or any other Section in former years Indeed, too much credit can not be given our Secretary for his indefatigable labors and their fruitful results We regret that his obligations to our country, now resounding from end to end with stern alarums, deprive us of his companionship and help on this occasion, to which he has looked forward with such keen pleasure, and for the success of which he is so largely responsible I am sure that I voice the sentiments of every member of the Section, when I thank him for his work in our behalf, and bespeak for him a safe return to Denver, where his professional worth and surgical skill have long been recognized as second to none Our loss is the country's gain, and we might well wish that all of our countrymen needing surgical attention in the pending war with Spain, may fall into hands as competent and deft as the Surgeon of Colorado's Volunteer Corps

We also wish to express our gratitude to Dr Powers, the Acting Secretary, who on short notice assumed the work and gave to it most intelligent and conscientious attention

In offering for your consideration the customary Chairman's Address, I have chosen for my subject "The Influence of Age, Sex and Race in Surgical Affections" Time limits will prevent consideration of all diseases having a bearing upon the subject, and your attention will, therefore, be asked to some affections seeming to have a pointed claim to our notice

The treatment of racial differences has been almost necessarily limited to the white and black races of North America, as but few of the many army and navy surgeons to whom I have written for data gathered by them in their various assignments, have been able to reply at satisfactory length on account of the exacting demands of the past three months

The diseases of the negro possess an abiding interest to those of us living in the South, called upon as we are daily to give him professional succor in private, hospital and dispensary practice Although much that is of value has been written of his immunities and susceptibilities to disease, it has occurred to me that the last word has not been spoken, due more to the changes in the negro himself than to inaccurate observations on the part of medical writers of the past and present

In To the careful student who reviews the literature of the subject, there is no escape from the conclusion that the negro as we now find him, with changed environments, habits and associations, is a different being from what he was in antebellum days He came to America three hundred years ago with certain immunities and susceptibilities to disease, which were so conspicuous as to be noted by all trustworthy observers A few of the immunities he hitherto enjoyed have been maintained, more have been lost in part, others wholly exhausted, and to some few diseases he shows not only the same liability as the Caucasian, but even exceeds him in vulnerability, to-wit local tuberculosis of glands, skin and bones The original susceptibilities of the negro seem to have abided with him, and to have undergone less change, he still being as obnoxious to fibroid and other benign neoplasms as he has ever been, as well as to keloid, elephantiasis and tetanus Not only is the race manifesting an increasing tendency to disease of all kinds, but statistics of every Southern hospital will prove them to be less resistant and to show a larger mortality, both in medical and surgical affections (operative and non-operative cases), than the Caucasian The full-blood is less resistant to begin with, and the mulatto inherits the weaknesses of both races, the strength of neither, and begins life with the heaviest of handicaps Therefore, it is not surprising to the observant to occasionally hear such authorities as Hunter McGuire, D W Yandell, and other thoughtful practitioners of large and long experience with this race, say that the African will in time become as extinct in this country as the bisons and the North American Indian It is clearly foreshadowed, that he can not maintain the struggle for life with a race his superior in every respect, in a climate to which he is ill-suited at best

MALIGNANT DISEASE

All early writers testified to the immunity of the African, in both his native and adopted country, to malignant disease It can not be doubted, I think, that as a race, cancer was most rare with them up to fifty years ago These early writings have too much influenced practitioners of this generation, however, and many reason that cancer is still rare with negroes, because such was undoubtedly the case a few generations ago

Malignant disease (both sarcoma and carcinoma) is certainly increasing in frequency in the black with even greater ratio than in the white race From a condition of practical immunity they have become nearly as liable to malignant disease of some organs as the white, quite as much so to that of the mammary gland and the seemingly more obnoxious cancer of the uterus The records of the City Hospital and Health Department of Louisville for the past thirty years are in line with the statements and statistical data of Billings and Matas, and emphasize especially the frequency of cancer of the uterus in negroes It would be interesting to know what per cent of the cases were in full-bloods, but it is impossible to ascertain this, as no distinction is made in our reports between full-bloods and mulattoes Nor is it possible to determine with reasonable accuracy the relative number of cases of sarcoma and carcinoma, and therefore, no attempt is made to do so

It is safe to say, however, that the negro is relatively somewhat more prone to sarcoma than cancer As has been stated, the mammary gland suffers as often in the black as in the Caucasian, the uterus more so Now it would appear *a priori*, that the negro, almost universally affected as he is with phimosis, should show a special susceptibility to cancer of the penis, yet I have never seen such a case, nor do the records of our city hospital indicate that one has been treated there in thirty years Of 207 deaths from cancer in negroes reported to the Louisville Health Department in thirty years, none have been entered as cancer of the penis

According to the eleventh census (just issued), malignant disease occurs in every 100,000 living inhabitants

Whites	53 93
Negroes	36 65
North American Indians	5 31
Chinese a little less liable than Indians	

To every 1000 deaths from known causes in the United States in persons over forty-five years of age, there were due to cancer and tumor

Whites	62 86
Negroes	29 81
North American Indians	14 49
Chinese	12 99

In this country, as in England, cancer is alarmingly on the increase Both races show a marked increment of gain, and so far as cancers in general are concerned, the increase has been about the same in the two races, as will be shown by the table giving every death from cancer in Louisville for thirty years These records have been gone over by my assistant, and are, I am sure, reliable, as he has devoted weeks to the work It will be seen that the number of cases has doubled each decennium

CANCER OF ALL PARTS

1868 to 1878—total number deaths 244 white 205 colored 39
1878 to 1888—total number deaths 484 white 411, colored 73
1888 to 1898—total number deaths 892 white 797, colored 95
Total number deaths for thirty years 1620 white 1413 colored 207

There have been 161 cancerous patients in the Louisville City Hospital during the past twenty years (1878 to 1898) The records of the decennium from 1868 to 1878 are incomplete and are therefore excluded Of cases admitted there were 118 white and 43 colored

1878 to 1888—total number cases admitted 63 white 47, colored 16
1888 to 1898—total number cases admitted 98, white 71, colored 27
1878 to 1898—total number cases admitted 161 white 118 colored 43

These statistics agree fully with those of Matas, drawn from the service of the Charity Hospital in *New Orleans, and show that malignant disease*, instead of being uncommon in the negro, is as often encountered in him in Southern hospitals as it is in the whites

Of 1620 deaths from malignant disease reported to the Louisville health office, 1413 were whites and 207 colored, or about one-eighth of the total number; *the normal proportion of colored population to white* in Louisville is one to four, which indicates the mortality in the colored population to be 50 per cent of *what it is in the white for cancers in all situations* This I believe to be nearer the truth than the smaller hospital series indicates, as it deals with the entire population of the city, and is moreover nearly in accord with Billings' eleventh census statistics (death rate 53 93 to 100,000 living white inhabitants and 36 65 colored) Further, these represent deaths, and are not open to the objections clinical diagnoses may be

The discrepancy between the statistics of the hospital and health office are apparent and not real, for, while the hospital shows the colored race to suffer as often as the white, it should be remembered that the improvidence and indigence of this race force them into the city hospital twice as frequently as the more favored whites The normal hospital proportion of colored to white is just double that shown by the city at large, hence the two reports are in perfect harmony and show the negro to suffer one-half as often from cancers in general as the whites

Mammary gland —Far from being uncommon, as *many practitioners believe, malignant disease of the* mammary gland is as frequent in the black as the white Personally, I have seen five cases, and know from a colleague that two others were recently in the city hospital The first case of cancer of the breast I ever saw was in a negress about forty years of age as black as a crow's wing She died from recurrence after operation, at the usual time and in the usual way, confirming the clinical diagnosis In all the others the clinical diagnosis was confirmed by the *microscope and by the death of each from recurrence*

There were 889 cases of cancer of the breast reported in the eleventh census, 811 females, 2 males One occurred under 15 years of age, 16 between 15 and 45, 670 at and over 45 Rate of death to 100,000 inhabitants females, 8 23, males 0 29, age 45 to 65, 30 08, 65 and over, 50 Death rate practically same in white (4 27) and colored (4 19)

The records of the Louisville city hospital for the past twenty years show that three-fifths of the cases were whites *and two-fifths colored, though the latter* represent but one-third of the hospital population Our health office shows that there were fifty-eight deaths from mammary cancer in the past thirty years Of this number fifty were white and eight colored

1868 to 1878—total number cases mammary cancer 14 white 14 colored 0
1878 to 1888—total number cases mammary cancer 17, white 15 colored 2
1888 to 1898—total number cases mammary cancer 27, white 21, colored 6

1868 to 1898 . . . . 58 white 50 colored 8

Undoubtedly there have been a larger number of deaths from cancer of the breast, but many have doubtless been entered as "cancer" without giving situation Small as this series is, it emphasizes the increase of cancer in the negro, especially, and shows that as a race they suffered more frequently than the white during the past ten years

Cancer of uterus — The eleventh census shows cancer of the uterus to be far more common in the colored race There were 1472 cases reported and the death rate was 24 94 in the negro and 14 41, or but little more than half the number in white women Table shows death rate per 100,000 during census period at all ages

	All ages	15 to 45 years	45 to 65 years	65 years and over
Total	14 93	9 32	54 01	45 91
White	14 41	8 79	52 29	44 36
Native born	10 98	7 51	51 71	43 71
Foreign born	22 92	11 98	50 79	41 77
Colored	24 94	18 82	94 59	88 36

The death rate is very much higher in the colored race for all ages

Both the Louisville city hospital and health office statistics show cancer of the uterus to be more common in the black race From 1878 to 1898 there were 31 cases of cancer of the uterus in the city hospital, of these 23 were white and 8 colored (normal proportion of colored to white in hospital 1 to 3), showing relatively a greater number of cases in the black race

1878 to 1888—total cases 13, white 12, colored 1
1888 to 1898—total cases 18, white 11, colored 7
1878 to 1898—total cases 31, white 23, colored 8

From 1868 to 1898 there were 272 deaths from cancer of the uterus reported to the health office of Louisville, of this number 216 were white and 56 colored It shows a per cent against the negro—our normal population being 1 to 4 Total number deaths from carcinoma uteri in Louisville from

1868 to 1898—272, white 216, colored 56
1868 to 1878— 39, white 29, colored 10
1878 to 1888—190, white 74, colored 27
1888 to 1898—133, white 113, colored 20

I would be glad to pursue the subject of regional liability in the two races further, but it is impossible at this time, suffice it to say that liable as the mammary gland and uterus of the negro are to malignant disease, certain other regions which one would expect to suffer often do so infrequently I have never seen cancer of the penis, larynx or tongue in a negro, while rectal cancers are common

Cancer is rare in Indians, and when it does occur, so I am informed, attacks the breast and uterus Great smokers as they are, their immunity to cancer of the lips has been remarked upon by a number of army surgeons who have written me Cancer is rare in all savage races, and is pre eminently an affection which increases in frequency with a higher state of civilization Dark-skinned races suffer less than the fair

Age and sex —Women are twice as liable to malignant tumors on account of their proneness to disease of the uterus and mammary gland, which embrace one-half of the cases in the female sex Snow's statistics, gathered from the Cancer Hospital in London, and those of W Roger Williams recently published, clearly attest woman's double liability The sexes are upon a parity up to the fifth quinquinnium, when the difference between them becomes striking From 25 to 55 the female is nearly three times as liable to malignant disease, and from 55 to 90 is almost twice as obnoxious Gusserow, who analyzed 3385 cases of uterine cancer, found only two to have occurred prior to 20, while of Gross' series of 1622 mammary cancers the youngest was 21, a ready explanation of the heavy tribute woman pays to malignant disease during the activity and devolution of her sexual organs

Age—Infancy and childhood are practically exempt from epithelial malignant neoplasms (cancer), the youngest case on record being one of cylindroma of the rectum in a girl aged 11 (Stern) Cancer being rare prior to 30, then gets to be more common, is ever thereafter more liable to occur with each succeeding year, and has been reported by Sutton at 102 Practically all tumors of infancy and early childhood are sarcomata, they being nearly as exempt from benign neoplasms as they are to true cancers Sarcomas of the eye, kidney, testis and prostate are common in infancy, and may be in many instances congenital

Duzan analyzed 182 cases of sarcoma in infancy, and found 70 of the eye, 45 of the kidney, 11 of the testicle, 8 of the prostate, while the bones, tongue, abdomen and brain were affected 5 times each, lung and dura mater 4 times, pancreas 3, liver, tonsil and rectum 2 each and stomach 1

During the second decennium the long bones and maxillæ are the usual sites of sarcoma The long bones still suffer in the third, and in the fourth decennium some of the long bones, as the humerus, and the mammary gland and testicle exhibit their greatest tendency to sarcomatous change After forty, sarcoma is rather uncommon until sixty, when it again becomes frequent Like cancer, it is common as a senescent change, but unlike it, shows its greatest destructiveness in infancy and early childhood

The following tables are by W Roger Williams, on "The Malignant Tumors of Infancy, Childhood and Youth," the *Lancet*, London, May 1, 1898

TABLE 1 Showing the deaths due to malignant disease at different age periods

Sex	All ages	Under 1 year	1-2	2-3	3-4	4-5	Total under 5 years
Males	57,454	8	6	6	6	5	31
Females	10 489	7	6	6	6	6	31

	5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65-75	75-85
Males	18	18	33	50	145	426	1095	1727	1555	591
Females	15	18	25	41	321	1313	2464	2922	2330	910

Over 85, males, 65, females, 101 Total both sexes, 16,243

TABLE 2 Showing the number of deaths from malignant disease in early life per million persons living at each age period

Age periods	Under 5	5-10	10-15	15-20	20-25	All ages,
1861-70	13	7	7	7	17	384
1871-80	12	7	7	15	27	464
1881-90	20	10	11	20	35	539

BENIGN NEOPLASMS

As a class the mesoblastic benign neoplasms are more common with the negro, he being exceptionally obnoxious to fibroma, lipoma and keloid Molluscum fibrosum, which I am not disposed to question is more frequent in the negro, is, I am sure, a more common affection in the whites of this and even more Northern latitudes than authorities admit Many speak of it as an affection almost peculiar to the black races of the tropics, yet I have in my own practice seen three most beautiful instances of this disease in white males, all past forty, within the last four months I have seen the disease more often in the white than the black Keloid is also, I take it, more common in the white race than many believe, though it is certainly many times less frequent than in the negro I have seen a number of typical keloids supervening upon vaccination scars, on the lobule of the ear after the piercing, and upon cicatrices variously situated, in the white race I agree perfectly with Tiffany that operation does no good in young subjects, and that there is in elderly persons afflicted with keloid a spontaneous tendency to undergo resolution There is no disproportion between the sexes in their liability to benign tumors

Age As has been intimated, the very young are practically exempt from benign neoplasms The first decennium suffers rarely, and then usually from congenital angeiomata and lymphangeiomata

TUBERCULOSIS OF BONES, JOINTS, SEROUS MEMBRANES AND GLANDS

Pulmonary consumption, which was practically ated upon by Louisville surgeons but one was in the negro I have at great pains seen every surgeon in this city and gone over their series carefully with them, and am sure that these statistics are absolutely trustworthy I have done more, and have gone to Dr Soloman, Curator of the City Hospital, who has kept a record of every postmortem examination he has made since he has been curator (two years) and in not a single instance have stones been found in the gall-bladder of a negro It, of course, was examined in every postmortem He found them frequently in whites

That the negro should suffer less frequently is, I think, explained by their more active life, better teeth and stronger digestion, coupled with the fact that they do not indulge in the highly seasoned and bilious-making food of the whites, they are also less liable to malaria and other conditions dependent upon, or associated with, a torpid liver

ANEURYSM

According to the Eleventh Census Report aneurysm is far more common (3 to 1) in the colored than in the white race The records of the health office in Louisville agree fully with Billings' statistics, showing that in a population of one to four there were nearly as many deaths in negroes as in whites (14 colored and 18 whites) in the last decennial period

Of patients treated at the Louisville City Hospital for ten years past, there were slightly more than three times as many negroes as whites, although the proportion of white to colored patients in this institution has been nearly three to one Sex also has a most marked influence in the etiology of aneurysm Crisp, in an analysis of 551 cases, found it to be seven times more common in men Souchon's series of 98 cases shows 76 males and 22 females An analysis of the cases at the Louisville City Hospital, and those reported to the health office for the past ten years, shows more than three times as many cases in men The disproportion in the two sexes is, I think, readily explained by the greater tendency of the male sex to arterial degenerations on the one hand, and their occupation and habits on the other Age has a most direct bearing, as aneurysm rarely occurs before 30 In the series analyzed by me none occurred under 25, there were but three under 30, aged 25, 28 and 28 respectively The greatest number of cases will be found between 35 and 55 The disease is rare after 60 The following table gives a record of all cases reported to the Health Department of the city of Louisville during the past ten years

	White		Sex not stated	Colored		Sex not stated	
Age	M	F		M	F		Totals
1 to 10							
10 to 20							
20 to 30	2				1	1	4
30 to 40	3		2	1	1		7
40 to 50	3		1	3	2	1	10
50 to 60	3	2			1	1	7
60 to 70		2		4		1	4
70 to 80							
Totals	11	4	3	5	5	4	32

Males White, 11, colored, 5, total 16 Females White, 4, colored, 5, total, 9 Sex not stated White, 3, colored, 4, total, 7

Aneurysm is apparently far more common in some races than in others, being very frequent and seemingly increasing in England, while it is one of the rarest affections in China, due, it is said, to the non-stimulating *rice diet, temperate habits, and phleg*matic temperament of the Chinese Prof Hunter McGuire, of Richmond, Va, writes me as follows "Aneurysm is much more common in the negro than in the white in my experience" Prof Tiffany of Baltimore writes of the frequency with which aneurysm occurs in the black race Nearly all surgeons to whom I have written and from whom I have received replies have remarked upon the greater liability of the black race to aneurysms I regret to say that few have given any reports of cases, and that these statements are merely impressions gained from a large experience but not substantiated by statistical detail It is certainly my own conviction that aneurysm is relatively far more common in the negro, and there fore, can not agree with Matas' statement that aneurysms are somewhat less common in the African, a fact he thinks due to their comparative immunity to gout, rheumatism and alcoholism

TETANUS

While tetanus is co-extensive with civilization, affecting every race and clime, it is more common in subjects living in hot climates and possessed of dark skins Negroes, Hindoos, South Sea Islanders, Italians, Spanish and French are less resistant to the germ of Nicolaier In this country the negro is unquestionably more obnoxious, the infant mortality being heaviest Appreciating the indifference with which negroes treat minor injuries, and their proverbial uncleanliness, we can well understand their greater liability to infection

The mortality among colored infants is particularly high in comparison to the white, which is explained by racial predisposition on the one hand, perhaps; and by the greater chance for infection through the cord of the newborn, cut as it is with dirty scissors, handled with dirtier hands and wrapped in unclean rags A large per cent of colored infants die from trismus neonatorum on Southern plantations, death usually occurring within a fortnight after birth In the Island of Jamaica and other more Southern countries, the death rate is at times frightful, being from one-quarter to one-half of all infants born, yet the whites here do not suffer to any degree

According to Billings' recent Census Report, there were 2019 deaths in the census year 1238 males and 781 females In 1880 the death rate was greater Persons from 5 to 15 years show the highest death rate (1 74), those from 15 to 45, 1 04, and over 45, 1 42 The death rate in boys was nearly five times as heavy as in girls There were sixty deaths in Chicago during the month of July, 1881, due to toy pistol accidents This, I think, explains the greater prevalence in males, they are simply more exposed to accidents of all kinds and are not more liable, *per se,* to infection

Tetanus is, or has been in past wars, frequently encountered in military surgery English soldiers in Spain suffered from tetanus in proportion to one case in eighty wounds, and in the East Indies, in 1872, twice as often During the civil war our troops were more fortunate A letter just received from Surgeon Major J C Merrill, United States Army, and librarian of the Surgeon-General's Office, is as follows "I would state that out of 246,712 injuries by weapons of war, 505 (0 20 per cent, or a little over two in a thousand) were followed by tetanus I may add that over one-half of these cases occurred after injuries to the *lower extremities, a fact that has been noted* by several authors in other statistics Your second question, as to the relative frequency of tetanus or erysipe las in colored and white troops, and also in North American Indians, can not, I think, be answered without an amount of search that would require weeks to make it valuable Isolated cases are reported here and there, but I know of no statistics of sufficient numbers to throw any light on this matter "

The Italians, Spanish and French have suffered more in their wars than soldiers of more Northern countries with fairer skins Sudden variations in temperature and the depressing effects of defeat, have always increased the number of cases in military surgery

I am told by Hebrew surgeons that trismus neonatorum is more common than it should be in Jewish infants It can well be explained, if true, by the manner of performing the ritual circumcision The Mohel is necessarily surgically unclean and careless in performing the operation, and infection should be easier than if this function were transferred to surgical hands I am reliably informed by one of my Hebrew medical friends of Louisville that a well-known Mohel of that city is himself infected in a serious way, and a very unfit person to officiate as he does I am further told by Jews who were born in Russia and other countries, that an affection, which I take it from their description, must have been trismus, is quite common among Jewish infants there The Jews are a shrewd, wideawake, sensible people, quick to see their own interests, and it is reasonable to assume that time will soon bring about a change of sentiment in this rite

Health office —Deaths reported due to tetanus from 1888 to 1898

White 5, colored 3, total, 8 cases age not given, white 39, colored 16, total 55 cases over one month, white 126, colored 29 total 155 cases under one month Total, 218 cases Total white, 170 Total colored, 48

VARICOSE VEINS

Varices of the limbs are but seldom encountered in negroes Of 23 cases of varicose veins of the legs, without ulcer, there was but a single case in a negro, a male aged 44 Of 29 varicose ulcers there was only one case in a negro, a man aged 53 Of the 45 cases there were 13 females and 32 males

Varicose veins of the limbs are rare before 30, there being but two in the series, aged 27 and 28 respectively Between 30 and 40 there were 4 cases, between 40 and 50 there were 4 cases, between 50 and 60 there were 6 cases, between 60 and 70 there were 7 cases, between 70 and 80 there were 2 cases Varicose veins of the limbs are uncommon with Indians, Mexicans and Chinese

ERYSIPELAS

The total number of deaths due to erysipelas, in the United States Census Report just issued, was 2663 The death rate per 100,000 inhabitants was as follows Under 5 years 31 34, 5 to 15 years 0 81, 15 to 45 years 2 80, 45 to 65 years 8 88, 65 and over 38 55 Very few cases occurred in colored persons, so few as to be of no value A careful examination of the records of our city hospital and the Louisville Health Office shows that the disease is not so rare in the negro as many suppose Of 79 deaths due to erysipelas, reported in the past ten years to the health department of this city, 17 were colored, which is about the normal proportion, our population being one to four

Those who are unaccustomed to seeing erysipelas in the negro are apt to overlook it on account of the color of his skin Sex would seem to have but little effect The two extremes of life suffer by far most frequently, young adults and middle aged persons having it but rarely Erysipelas of the newborn has not been a frequent affection in Louisville, judging from records of deaths reported to the health department In ten years there have been 11 cases dying within the first month of life, of these 10 were white

STONE IN THE BLADDER

Dr George Ben Johnston of Richmond, Va, has made a careful investigation of 1068 cases of urinary calculi occurring in twelve Southern States, and finds that the negro is less immune to this affection than has been hitherto believed by many surgeons It occurs once in every 11,732 whites, and in the black race once in 55,305 It is, then, nearly five times (4 72) more frequent in the Caucasian Sex was specified in 708 cases, there being 691 in males and 97 in females, more than seven times as frequent in the male sex The ages of his cases in this large and interesting series were not given, I regret to say Gross analyzed 6042 cases of urinary calculi with reference to age, and found that

2334 occurred from 1st to 10th year
1079 occurred from 10th to 20th year
513 occurred from 20th to 30th year
353 occurred from 30th to 40th year
422 occurred from 40th to 50th year
536 occurred from 50th to 60th year
587 occurred from 60th to 70th year
201 occurred from 70th to 80th year
17 occurred from 80th to 90th year

It will be seen that more than one half of all cases occurred within the first two decades of life, and that the first furnishes more than double as many cases as the second, the latter more than double the number in the third decade The ratio is then pretty well maintained until the sixth decade, when an increase is noted, this increase to be still further augmented in the seventh decade When it is remembered that there are relatively fewer persons living in the sixth and seventh decades, it will at once be seen that the two extremes of life, the first and seventh decades respectively, are most obnoxious to urinary calculi Stone in the bladder occurs everywhere, affecting every race, but it is found in some countries more frequently than in others In North America it is found most frequently in Kentucky, Tennessee, Ohio, Missouri, North and South Carolina, Virginia and Georgia New England is relatively exempt, as are also Mississippi, Alabama, Arkansas, Louisiana and a few other Southern States Stone is common in France, Austria, Hungary and Russia, seldom seen in Spain and Switzerland It is also frequent in England, though less so in Ireland It is very common in India In China gravel and calculus are, according to Gudgeon of Pekin, among the rarest of affections Stones are common enough at Canton, but of infrequent occurrence at other points It has been supposed to be due to the fact that the inhabitants here live largely upon fish, but this can hardly be, as Gudgeon states that the diet, water and habits are the same here as at other Chinese centers

Opium eating is supposed to lessen the liability of the Chinese, as a race, to stone Certainly it is not the drinking of limestone water, as river water is universally drunk and very generally boiled before drinking Little cold water is drunk in China A number of my surgical friends in the Medical Corps of the

United States Army assure me that stones in the bladder and kidney are rare among the North American Indians, and the reported cases will generally be found to have occurred as a result of traumatism, a nucleus in the bladder inviting the deposition of the solid constituents of the urine around it. I have reports which justify me in thinking that vesical calculi are more common with Mexicans, one operator in the small town of Santa Fe reporting five operative cases.

STONE IN THE KIDNEY

Practically all that has been said of vesical calculus pertains with equal force to the renal variety. The two extremes of life are most obnoxious, males also suffer about twice as often as females, some placing it as much as three times as frequently. Some excellent authorities, however, as Duplay, Reclus and others, think the two sexes equally affected. It is very certain that the disproportion which exists between the two sexes in vesical calculus does not exist here, and does occur in the former disease for obvious anatomic reasons. The short, capacious urethra of the female easily allows gravel to pass, which in the male must remain in the bladder and act as nuclei for future stones. No cases have been reported to me as occurring in the negro.

OVARIAN GROWTHS

Ovarian tumors, cystic and solid, occur at all ages and in every race so far as I know. The more usual form of growth is cystic in character, simple or dermoid. Both varieties may be congenital, frequently are, and only await the stimulation which puberty brings to awaken them into renewed life. Therefore, while the records abound with instances of operations done upon simple and dermoid cysts in children by operators all over the world, we may say that prior to puberty ovarian growths are relatively rare. An infant four months old was successfully operated upon by D'Arcy Powers at the Victoria Hospital for an ovarian cyst containing fifty-nine ounces of fluid, reported only a few weeks ago. Hoffman reports an unsuccessful case at three months, the tumor containing six to eight pints of fluid and the solid portion weighing 2½ pounds, in all 10 pounds. Busch operated unsuccessfully upon an ovarian cyst in a child 24 months old. de Santa Anna removed a dermoid cyst in a child 1 year old, and Roehmer one from a child 20 months old, and Schwartz one from a child 4 years old. Mears, Barker and Rein have operated in cases of children under 7 years of age, while Thornton, Lucas, Hamaker, Cupples and Chenoweth have operated in children from 7 to 7½ years. Sir Spencer Wells and many others report operations in children under 10 years of age.

As to the other extreme of life, the same may be said, the octogenarian being not immune. A great number of cases have been reported in women past 70, and a reasonable number 80 and beyond. Cartledge of Louisville, recently operated successfully upon a case past 81. Hoffman reports a case at 82. But, while it is true that ovarian cysts may and do present themselves at any age, it is also true that they are most likely to develop during the sexual life of the host. Puberty stimulates not a few to rapid growth, especially dermoids, therefore, it is not unusual to find such growths under 20. They, and all other ovarian tumors, are more common, however, during the next three decades of life.

Much has been written about the immunity of the negro to cystic diseases of the ovary, yet literature teems with instances of the affection in the colored race. It is unquestionably less common in the negro, but the difference in liability of the two races which is supposed to exist by many surgeons is not supported by careful statistical data. A great many ovarian cysts in the negro, full-blooded as well as mulattoes, have been reported to me by various surgeons of the South. The records of the Health Office of the city of Louisville show that there have been nearly one-third as many deaths from ovarian tumors in the colored race as in the white during the past ten years. This would indicate them to be even more common than in the white, as the normal proportion of colored to white population is one to four, yet this is not the case, I fancy, as the discrepancy is easily explained, I think, in several ways. In the first place the colored race is less resistant to surgery of all kinds, which fact seems clearly established by Matas, from the enormous experience of the Charity Hospital of New Orleans. In the second place negroes are oftentimes operated upon by less skilled abdominal surgeons and under environments less advantageous than whites enjoy.

I am, to conclude, satisfied that the supposed immunity which the negro is thought by many to enjoy does not exist, except to a limited degree, if at all, for if they were immune at one time, the immunity hitherto enjoyed, has, like unto that from malaria and yellow fever, almost wholly disappeared. The size of ovarian growths varies from a walnut to a mass aggregating a weight of 245 pounds, the largest tumor on record, removed by Cartledge of Louisville, within the year. A female laparotomist of Japan removed one weighing considerably less. Keen of Philadelphia, removed a very large tumor in a girl 15 years of age, weighing 111 pounds, the child weighing, after removal, 68 pounds.

Malignant disease (usually sarcoma) of the ovary may occur. It is four times as common before the age of 15 as afterward, 25 per cent die from any operative interference, and nearly all within a year from recurrence. Convalescence is also tedious in those who survive operation.

CONGENITAL DEFORMITIES

Harelip, cleft palate, clubfoot, spina bifida and all congenital deformities are certainly less frequent in the negro, judging from the experience of Louisville surgeons and other practitioners in Southern cities to whom I have written. But a single case of harelip and cleft palate, both in the same individual, has been operated upon in Louisville, so far as I can learn from personal interviews with its surgeons and examination of the records of the city hospital and college clinics, for the past ten years. Clubfoot and spina bifida in the negro have never been encountered in my practice, nor so far as I can learn in the practice of other Louisville surgeons. Dr Vance is positive that he never saw a case.

Congenital deformities of all kinds are also reported to be most rare with Indians. The only deformity reported by any of the many army surgeons to whom I have written was one case of clubfoot and a double harelip, both in Sioux children. The clubfoot was in a boy and the sex of the harelip case was not given by the reporter, Dr William L Kneedler, captain and assistant surgeon, United States Army. Other army surgeons who have answered my inquiries have all stated that they have never met with these deformities in Indians, most of them, however, stating that they may not be so rare as their observations would indicate, for it is the custom of the Indians to put deformed children to death soon after birth The Jews, I am informed, suffer less than others from congenital deformities The Mexicans as a race suffer more frequently than Indians from all congenital deformities, and a number of cases of harelip, clubfoot, supernumerary digits, etc , have been reported to me One family in the practice of Dr J M Diaz of Santa Fé, N M , is remarkable for each of six children having six fingers and as many toes upon each hand and foot

APPENDICITIS

That appendicitis is relatively a rare disease with negroes is a fact substantiated by all Louisville surgeons and others from whom I have received answers to my questions In an analysis of 250 cases operated upon by Louisville surgeons, but 5 cases have been reported in negroes This would indicate a striking immunity, as it shows the disease to be only one-tenth as common in the black race

Sex —Nearly all writers on this subject have remarked upon and tried to explain the greater frequency of appendicitis in the female That it is more common in men none will deny Just what the difference in liability is, it is not easy to say Fowler's statistics indicate it to be rather more than four times as common—142 men, 35 women In 92 cases analyzed by myself there were 58 males and 34 females

Age —The influence of age is not less marked than that of sex and race The disease is common between 15 and 35 Though Hold, Villard and others report cases under 5 years of age, but few are of record, and we are justified in saying that the first quinquinnium of life enjoys a practical exemption from this affection It is rare in the second quinquinnium, more common in the third, liability further increased in the fourth, and reaching the maximum in the fifth quinquinnial period, then declining slowly in the sixth, seventh and eighth to become thereafter a rare disease The average age in 92 cases was 23 13 years

I have analyzed 92 cases with reference to age and sex Of these there were 58 males and 34 females The ages were as follows

	Cases
Under 5 years (3¾ years)	1
5 to 10 "	9
10 to 15 "	11
15 to 20 "	18
20 to 25 "	19
25 to 30 "	16
30 to 35 "	4
35 to 40 "	4
40 to 45 "	5
45 to 50 "	2
50 to 55 " (51, 52 and 53)	3
Total	92
Average age	23 12 years

In Fowler s 169 cases (*Annals of Surgery*, May, 1894) 142 were males and 35 females The age of the youngest was 2 5 years, the oldest 68 years In the youngest case the disease was tubercular in character This was the only case occurring under 5 years of age

	Cases
Between 5 and 10 years	8
" 10 " 15 "	21
" 15 " 20 "	29
Between 20 and 25 years	43
" 25 " 30 "	23
" 30 " 40 "	28
Over 40 years	16

Experience of Louisville surgeons

James M Holloway—"I recall but one case in the negro " Ap Morgan Vance—"Forty-four cases, one negro, average age 24 " A Morgan Cartledge—"I have operated but once on the negro in more than one hundred cases first, second, third decade " J Garland Sherrill—"Three cases, none in negro aged 55, 20 and 38 " H Horace Grant—"About 5 per cent in negro " W O Roberts—"About twenty cases, one in negro " T B Greenley, Meadow Lawn, Ky —"Have never seen case in negro " J R Buist, Nashville, Tenn —"Common from 5 to 40, rare in negroes " Hunter Maguire, Richmond, Va —"I see very little difference in appendicitis in the two races, probably it is a little more common in my experience in the white " L McLane Tiffany, Baltimore, Md —"I have operated upon two negroes for appendicitis, one a male child, one a young male adult " In more than fifty operative cases I have seen appendicitis but once in the negro

RECTAL DISEASES

That all periods of life do not suffer from the several diseases of the rectum is apparent to every observant practitioner Children frequently have prolapsus ani and polypi, but rarely other rectal affections Elderly persons also enjoy a relative immunity to rectal disorders, as they suffer infrequently from the more common troubles, hemorrhoids and fistula Cancer, to be sure, is more frequent with them, but it is, comparatively speaking, a rare disease Middle life is the time when piles, ischiorectal abscesses, fistulæ and fissures are most prone to occur They are all frequent An analysis of 70 cases of hemorrhoids shows only three patients under 20 to have suffered—at the ages of 14, 18 and 19 years respectively

Suffered in the third decennium,	14
Suffered in the fourth decennium	15
Suffered in the fifth decennium	19
Suffered in the sixth decennium	19
Suffered in the seventh decennium	3
Total	70

Sex seems to have an influence, as less than one-third were females (females 23, males 47)

Race has a more marked influence, there having been 60 whites to ten colored As these were hospital cases where the proportion of colored to white patients was 1 to 3, piles seem to be more than twice as common in the white

Hemorrhoids are said by army surgeons and others to be rare among the North American Indians The celebrated authority, Van Buren, who spent some years among them, stated that he never saw a case of piles in an Indian Dr F A Winter, assistant-surgeon, United States Army, informs me that hemorrhoids are reported to be common with the Mexicans, and their liability is supposed to be due to the free use of mescal Piles are common with the Mexicans of New Mexico where pulque is not used as a beverage, and is supposed by nearly all of the practitioners of the Territory, to be due to the free eating of Cayenne pepper

I am told by careful observers doing much practice among the Jews that they are as a race, liable to rectal affections Dr Gerster of New York, for many years surgeon to Mt Sinai Hospital where the patients are mostly Hebrews, gave it as his opinion in a paper read before the American Surgical Association, that this race frequently suffered from rectal affections He expressed the same opinion to me personally

Fistula in ano is just as common, or nearly so, in the colored race as in the white An anaylsis of 43 hospital cases shows 33 in whites, 10 in negroes, normal proportion of colored to white, nearly 1 to 3 The liability of the negro to tuberculosis explains his being more frequently affected with fistula than piles Twenty-seven of the series were males and 16 females

Age—The first decade, as in piles, furnishes no cases, the second but 5 cases, aged 13, 16, 17, 18 and 19 respectively

	Cases
The third decennium furnishes	12
The fourth decennium furnishes	10
The fifth decennium furnishes	4
The sixth decennium furnishes	11
The seventh decennium furnishes	2

Fistula is undoubtedly more fatal in the colored race Of the fatal cases reported to the Louisville Health Office during the past ten years, there were nearly twice as many deaths in negroes, although the normal proportion of colored to white population is only 1 to 4 This would indicate fistula in the negro to be nearly eight times as fatal as in the white The excessive mortality in the colored race can be explained by their greater tendency to tuberculosis, sepsis and syphilis

ACUTE INTESTINAL OBSTRUCTION

Omitting congenital malformations as a cause of obstruction, we have first, invagination or intussusception, second, impaction of foreign bodies, notably gall-stones, third, volvulus or twisting of the bowel upon its axis, said to be due to elongation of the mesenteric attachment of the gut, and fourth, internal strangulation either due to an inflammatory band, a Meckel's diverticulum, or a protrusion of the gut through some internal opening I have only chosen to consider acute obstruction, as it would seem to have a more direct bearing upon the questions of age, sex and race

Intussusception—Intussusception causes at least one third of all cases of acute intestinal obstruction According to W Brinton, who analyzed 12,000 postmortem examinations, insussusception causes about 43 per cent of all cases Leichtenstern and Fitz place the figures at 38 per cent, others place them as low as 30 Intussusception is *pre-eminently* an affection of *infancy* and *early childhood* L Emmett Holt has collected 385 cases of intussusception in young children, 141 were under six months old, 89 between six and twelve months, 32 between the first and second year, 96 between two and ten years It will be seen that considerably more than one-half of these cases occurred within the first year It was encountered more frequently in males than in females—174 against 94 In adults intussusception is said to be more common in women than in men (Park's "System of Surgery") At least one-half of all cases of intussusception take place at the ileo cecal junction Of the remaining cases twice as many will occur in the small intestine as in the colon

Impaction of foreign bodies — Foreign bodies, hardened feces, and especially gall-stones, may occasionally cause intestinal obstruction From statistics, which I have carefully examined, it would seem that this will explain about one case in fifteen of intestinal obstruction I have seen two cases caused by impaction of enormous gall-stones, both in elderly subjects (white) and in females Occasionally an instance will be met with in a child who has swallowed foreign bodies Cases due to fecal impaction are usually in elderly subjects, a decided preponderance being females

Volvulus—Intestinal obstruction due to volvulus is comparatively rare It nearly always occurs after middle life, frequently in elderly people, and is three to four times as common in men as in women Elongation of the mesentery, which is supposed to act as a cause, may be congenital, but is usually exaggerated late in life as a result of prolonged traction, therefore explaining the relative frequency of this affection in elderly subjects, just as hernia is accounted for in the same way

Internal strangulation—This variety of intestinal obstruction is the most frequent of all It may be caused by a Meckel's diverticulum, inflammatory bands, retroperitoneal herniæ, prolapse of the intestine into an abnormal pouch, or be a form of hernia An intussusception is closely identified with the first decennial period of life, and volvulus with elderly subjects, this variety is associated with those between the two extremes of life This is, as we might expect, on account of occupation, exposure and the diseases to which we are liable during the active period of existence In men it may follow appendicitis caused by a band constricting the bowel, in women it not infrequently follows pelvic inflammation

Race—Of 45 fatal cases of intestinal obstruction reported to the health office for the past ten years, 40 were white and 5 colored, 26 males, 19 females This would indicate a mortality in the white race exactly double what it is in the black (Normal population one to four)

White, male 23, female 17, color not stated 10, colored, male 3, female 2, sex not stated 1, total 56

CHAIRMAN'S ADDRESS

[ABSTRACT]

Presented to the Section on Obstetrics and Diseases of Women at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June 7-10, 1898

BY JOSEPH PRICE, M D
PHILADELPHIA, PA

In the early history of gynecology the real pioneers had not only the scientific knowledge to attain, but principles to practically apply, means and methods to adopt without the aid of precedents or the counsel of fellow practitioners It has always been difficult to perfect and establish a procedure

McDowell operated with a mob at his door Nineteen and ten years before McDowell's operation, William Bainham did two successful operations for ectopic pregnancy Doubtless the success of Bainham's operation greatly influenced McDowell and was inspiration in his own heroic and successful work Yet notwithstanding this success there was a suspension of the operation for a quarter of a century Not again was the operation resorted to until 1843 Then by John Light Atlee of Lancaster, Pa , and John Clay of Manchester, England To the extent to which these pioneers carried their work, we have in our own work, without material change, followed their methods, ecting somewhat the lessons they taught and ırging the field of their application Ignorance prejudice yet face us at every turn, repeatedly osing from sources from which we have the least ıt or reason to expect it The old conflict is not altogether dead, buried and out of sight and ring Those whose courage was great, motives thy, were abused for throwing light into the kness in which the great body of the profession oped

'o illustrate and somewhat contrast the spirit of ı and now we let Dr Atlee speak "It is well wn that from the earliest period of ovariotomy in ladelphia down to the present time it has been my ıriable custom to invite members of the profession ıitness the operation, in order that they might be to form a proper opinion of its character and to ge of its propriety There was not a prominent lical gentlemen in this city that had not such an ortunity It was a rare circumstance during the bationary stage of the operation for any one to ept the invitation cordially and gratefully Some so coldly, as if conferring a favor upon me, others tely declined, others positively refused and emphatically condemned the operation, while others took the invitation as an insult" "Gentlemen who were bold enough to witness the operation were even directly accused by their professional acquaintances of being *particeps criminis* in committing murder, notwithstanding these murdered patients recovered Some high in the profession, against all ethical consideration, would call upon the patients who had finally decided upon the operation for the purpose of warning them against me and certain death The colleges proclaimed fiercely against the operation as unjustifiable and criminal" Professor Meigs thus emphatically expressed himself "I detest all abdominal surgery, I am free to say that I look upon all operations for the extirpation of the diseased ovary as not to be justified by the most fortunate issue in any ratio whatever of the cases, or in other words, not to be justified by any amount of success"

It is very good for men to be honest in their opinions, it is very much better for them, in spirit and in fact, to be right in them Oliver Wendell Holmes has aptly said "There can be no reason why the student of science should limit his attention to his specialty, though there is abundant reason why he should avoid any attempt to make researches over too wide a range of ground His researches in his own special corner of science will lose nothing in value, but gain greatly, by an occasional survey of the work of others, only let him not pretend to take part in actual work in many parts of the field he surveys" All troubles to which women are subject, medical and surgical, are found within the field of the general practitioner He should be a skillful diagnostician and should be competent to deal directly with many minor gynecologic troubles

In the last decade the younger school of gynecologists have unfortunately lost interest or neglected plastic surgery The great majority of them have been seized by the strange, inexplicable infatuation for the surgery of the peritoneal cavity

The vital questions relating to plastic work have largely dropped out of the discussions of our societies there are few recent contributions to our literature worthy careful study Along this line we are slow in following the footsteps of the older specialists, the compeers and followers of Sims Sims, followed by his pupils, gave his plastic operations, methods and instruments, as yet not improved upon by modification or otherwise All know the beautiful results following careful and successful work, and fully recognize that it is not work to be done by a mere apprentice to secure desired results The reports of vesico-vaginal fistulæ run about as follows "Two attempts at closure resulted in benefit to the patient, reducing the size of the fistula" Distressing conditions are not corrected, because gynecologists are not giving the subject the careful study its importance demands My own experience can not differ widely from that of many others In a recent series of cases I had four of vesico-vaginal fistula They were sent to me either by their friends or physician In each case there had been three or four attempts at closure, all failures These failures were explainable from the certain premises that the patients had not been thoroughly prepared for operation by the common methods so fully detailed by Sims and his pupils Operations for opening into the bladder, for complete laceration of the sphincter are failures in great numbers Some operators seem to miss the sphincter absolutely Careful training in plastic work is of more importance than in abdominal surgery An apprenticeship in a gynecologic dispensary gives a practical knowledge of skin diseases about the external genitals, of parasites and growths, and also lacerations, that is rarely obtainable in private practice Simple ovariotomies are easy, compared with the delicate, tedious and difficult work of dealing with mutilations where they are extensive, where we have lacerations of the urethra, perineum, bladder and cervix, or a very common distressing disorder, uterine displacement, which received prolonged and careful attention at the hands of the early and prominent gynecologists Of late years the preparation of the patient and soft parts for operative interference has not been sufficient Uterine displacements were treated successfully by simple methods by the early gynecologic specialists Hodge, Sims, Gaylard, Thomas, Albert Smith and many others of equal prominence at home and abroad, corrected the displacement or put the uterus in the normal or desired position with some form of properly adjusted pessary Displacements are quite generally shirked or neglected The very common office attempt at local treatment and the correction of displacement is an error and about always a failure Both office and the run-about treatment in the whole range of gynecologic disturbances are to be condemned Women with uterine posterior displacements should be put to bed, uterus put forward, all lacerations repaired and a well-fitting pessary placed Many general practitioners who make no pretense of special skill or knowledge, succeed beautifully in correcting displacements, this they do by putting the patient to bed and correcting the retroversion or the retroflection by using one of the varieties of the Albert Smith or Hodge pessaries, with Gayland Thomas modification The great, round, soft rubber rings are useless and harmful, but are in much too common use The stem girdle pessaries are of but little value All lacerations should be carefully repaired and posterior displacements carefully corrected before any of the usually adjusted pessaries are placed

The rest treatment for the correction of displacements is the shortest, surest and most satisfactory Anterior dressing of the uterus for a few days with the patient remaining at rest, in the Sims position, favors a very speedy recovery

It should not be taken that there are no risks associated with these mechanical appliances Early in the history of the use of the pessary there were numerous accidents I have removed them when very careful dissection was required, when the patient had worn them for ten or twelve years and had lost all knowledge of their presence I have found them deeply buried and the patient dying No great skill but great care is to be exercised in their application Men familiar with placing them get good results, and rarely have accidents The statistic records of accidents have a warning in them An eminent physician has published an analytic monograph in this relation and tabulates results as follows "Twenty-three cases of perforation of the rectum by the pessary, 20 cases of perforation of the bladder alone, 10 cases of perforation of the bladder and rectum, 1 case of ureteric fistula alone, 1 case of ureteric and vesico-vaginal fistula, 1 case of perforation of Douglas' pouch (neither fatal), 3 cases of perforation of the vaginal wall, the extruding portion of the pessary lying in the pelvic connective tissue, and 6 cases of the entry of a vaginal pessary into the uterus"

This record sounds a warning as to the importance of care in the application of the pessary There has been no very recent startling of the profession by the announcement that someone had invented a new pessary It is to be anticipated that during the meeting of our Association there will be a very lively shucking out of new methods of procedure

All we know of the physiology of uterine action compels us to regard the uterus and ovaries as the strongest links in the chain of woman's health of mind and body

Be not deterred by false sentiment or the jealousies of those who would rather keep their patients in their own hands than see them cured by others from doing what we know to be our duty

"Do we not all know by sad experience of the years of useless suffering that might have been spared, of lives that might have been saved, of the ruin of conjugal happiness that might have been averted, of material usefulness that might have been preserved had an accurate diagnosis been arrived at in the earlier stages of uterine disease and a proper line of treatment adopted

"In prolonged disorders of the uterus, resulting in enlargement, hyperplastic deposits or a process of fibroses following on arrested involution, in those secondary pathologic conditions attending upon lacerations of the cervix, in deep erosions, in unrelieved versions and flexions, in tubal enlargements and displacements, and in chronic affections of the ovary, as sequelæ of pregnancy, we find not only these reflex conditions present, but more aggravated pathologic consequences and more serious disturbance of function" These are the mature opinions of MacNaughton Jones and other eminent English specialists and general practitioners I strongly direct attention to this subject because it has not received the attention its importance deserves It has had a few able and courageous champions who have had to contend against obstructions raised chiefly by members of the profession from motives which we will not attempt to analyze

I am satisfied that many cases of nervous disorder could be averted or cured by early and careful attention to uterine and ovarian troubles and the examination of pelvic viscera We can only clear away doubts and establish safe scientific methods by utilizing the lessons of the observations and clinical experience of men who are working among facts

Our surgery is very much more than an art, it is also a science without limit, a science with no tolerance for obstructionists, no false deference for the venerable, that replaces the old with the better new We are not accepting mere opinions for truths, we are demanding scientific and practical tests, that old knowledge shall pass the crucial test of modern experiment and analyses We recognize that we have not reached the "last results," that there is enough we do not know to keep us from falling into a condition of inertia, to furnish us with extensive "happy hunting grounds" I could not refer to many of the evidences of our progress without raising controverted questions

We have given and continue to give names to things we do not understand, we know little or nothing about We have cancer, typhoid and puerperal fever, they are names for conditions, there we are estopped, finding ourselves face to face with the unexplained, we grope for the cause and remedy Among the best evidences of our progress are our medical journals They are largely to be credited with the scientific spirit, the earnestness of research diffused through the profession, they bring forward questions of direct and current interest, touch our every-day work, give those facts of our clinical experiences which constitute our best lessons, they index our progress Our periodical literature has largely taken the place of our old text books Our leading minds, where they have something to say, say it through our magazines, and give us the best they know To the busy physician the Journal is largely his literary world The Journal of the American Medical Association speaks for us as an Association, it is our official organ, it represents our scientific spirit and activities, the results of our study and research Through it the teachers in our colleges, the specialists and general practitioners speak However able and enterprising may be the editor, the Journal will not rise above the high water mark of the scientific intelligence of the American Medical Association—the great representative body of the American medical profession—by its report of our work we will be judged at home and abroad

In conclusion I can only make brief reference to obstetrics It is gratifying to know that the mortality in child-bed has been greatly reduced, this is largely due, both in lying-in institutions and in private practice, to cleanliness of environment In maternity cases it is in the great majority of instances dirt and meddlesome or unskillful instrumental interference that kills To have skillful obstetricians, the teaching of our schools should be more thorough, theoretically and practically Our students pay liberally for their advantages and should be dealt with liberally, every avenue to thoroughness should be open to them The professor who teaches him obstetrics should know the science and art of his subject and how to teach it As a rule the professor of obstetrics is not an enthusiast in his line, nor does he infuse interest and enthusiasm in the student, his teaching is largely perfunctory He teaches one subject, or professes to, while he practices another About all of them *want to be* gynecologists and specialists Some of them take to neurology, which requires great versitality of genius, the art to write poor poetry and indifferent fiction There are ample facilities in our educational centers for practical education in obstetrics hospitals, courts and alleys are open The student should be given that which will enable him, when he goes home, to go to work and do good work

ORIGINAL ARTICLES.

THE QUALIFICATIONS AND DUTIES OF THE MILITARY SURGEON

BY LIEUT-COL N SENN, U S V

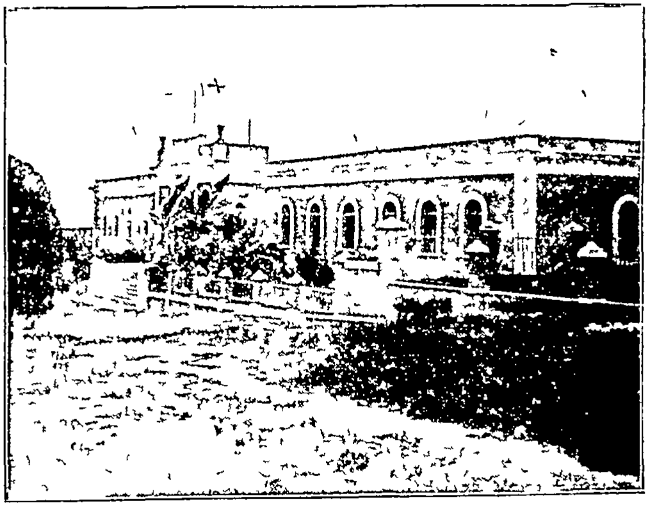
CHIEF OF OPERATING STAFF WITH THE ARMY IN THE FIELD

Nearly five months of continuous service with the army in the camp and field has afforded me an excellent opportunity to make a practical study of the above subject This time was spent in Camp Tanner, Springfield, Ill, Camp George H Thomas, Chickamauga, Ga, and the Cuban campaign, the time being about equally divided in the different places The first four weeks were occupied in Camp Tanner, where I assisted in the capacity of Surgeon-General of the State in the organization of the State troops This service brought me into closer contact with the National Guard of our State than at any time before A physical and professional examination in which I took part brought out the shady as well as the sunny side of their qualifications The result of my experience here convinced me that the average National Guard surgeon is a faithful doctor, with more than average professional ability, but, with few exceptions, lacking the necessary military training in performing satisfactorily his administrative duties This is a part of his education that has been sadly neglected in the past and should receive more attention in the future Very few States make provision for physical examination of the medical officers, consequently some of them have entered the service totally disqualified for participating in an active campaign Two of the candidates for the volunteer service from the National Guard of Illinois were rejected on this ground The four weeks' service at Camp George H Thomas as chief surgeon of the Sixth Army Corps opened up a wide field for extended observations in making comparisons between the work done by the surgeons of the regular army and of the National Guard The surgeons of the United States Army are all men of superior education, splendid physical development, and those who have been in the service for several years are well versed in the routine work of the Medical Department However, in all matters pertaining to medicine and surgery the average National Guard surgeon more than holds his own This superiority of the National Guard surgeon over his colleague of the regular army is no reflection on the latter, it is the natural outcome of circumstances, which made such a difference inevitable The young army surgeon has to spend many years at small and often out-of-the-way posts, where the opportunities for clinical experience and intercourse with professional colleagues are necessarily limited He naturally soon falls into the monotonous and routine work of the post life, with little or no inducements to continue his post-graduate scientific and medical studies When the time comes to pass an examination he wakes up from his lethargy sufficiently to go through the different compends to prepare himself for the coming ordeal He breathes easy after he has reached the major's rank, as this promotion forever closes the door of the much-dreaded green room From now on he is in the line of slow promotion without any extra exertions on his part He receives his salary and looks confidently for assignments to posts where he can spend the balance of his life in ease and luxury He has reached a time in life when he feels that he can avail himself of the work of his subordinates without interfering with his emoluments or his position in social and military life He is conscious of the fact that he has reached a rank and a station in life where it is proper for him to look to his assistants to do the drudgery which he had become accustomed to in the past, and begin to enjoy the life before him It is different with the military surgeon taken from civil life He emerges from the turmoils of family practice From the day of his graduation he has tasted the bitter fruit of active competition His work has been watched with an envious eye and subjected to sharp criticism by his neighboring colleagues, old and young He felt from the very beginning of his professional career that success depended upon his own exertions The average American practitioner is a hustler He is willing to work night and day to gain a lucrative practice and the social position which goes with it With few exceptions he knows that what he has learned in college is but the entering wedge to a comprehensive knowledge of the practice of medicine and surgery He knows that our profession has become a progressive one His college education tells him what is new today will be old tomorrow He looks with pity on his colleagues, advanced in years whose language and practice convince him that they have fallen into a dangerous rut He reads the numerous medical journals, the great avenues of recent medical literature He spends his scanty income in purchasing new books and instruments for scientific investigations All requisitions are made on himself and are honored only by writing his own checks He joins medical societies, large and small, and attends their meetings regularly He listens intently to the reading of papers and discussions to increase his store of knowledge and returns to his limited field of action better prepared to battle against disease He mingles freely with the members of his profession, always ready to absorb and digest new ideas He makes frequent pilgrimages to his alma mater or some post graduate school to familiarize himself with the most recent advances in medicine and surgery Social life has no attractions for him he has entered the profession for the sole purpose of becoming an influential and successful practitioner This is the kind of material our National Guard surgeon is made of No wonder he outweighs the professional military surgeon in practical knowledge required in the treatment of injuries and disease

The exacting and often onerous duties of the military surgeon in times of war require special qualifications to prepare and fit him for his work He is not only expected to be well versed in theoretical and practical knowledge of everything pertaining to the practice of medicine and surgery, but he must be endowed with qualities both of mind and body upon which he can rely when engaged under the most trying circumstances In field work he has often to perform the most difficult tasks ry resources In such instances good common sense and deliberate action go much further in accomplishing what is desired than the finest scholarship and the most profound logical reasoning The man who can in a few moments extemporize a well-fitting splint out of the simplest materials and perform with the contents of an ordinary pocket case the most difficult operation will do vastly better work on the battlefield than most professors of surgery and the most brilliant operators in civil practice The surgeon who understands the principles and practice of good cooking is of more service to the troops than the one who can repeat, word for word, the contents of the most exhaustive treatise on materia medica and therapeutics The medical officer with a full knowledge of hygiene and sanitation and endowed with the faculty of making a rational, practical use of it is preferable to the most expert clinician, as in military practice it is more important to prevent than to treat disease, no matter how successfully and scientifically the latter may be conducted The all-around medical officer must be a good mechanic, he should know how to use the carpenter's and blacksmith's tools, how to row and sail a boat, how to make a raft and occasionally he will have reason to be thankful if he has learned how to pack a mule and drive an ambulance team His miscellaneous knowledge of matters and things entirely outside of his legitimate province will be constantly drawn upon from different sources and the more he knows and is willing to impart the more he will be useful and popular The man who enters the medical department of the army under an impression that he is only expected to treat wounds, set broken bones and prescribe for the ordinary camp ailments makes a serious mistake and will be surely a disappointment both to himself and to those he is expected to serve

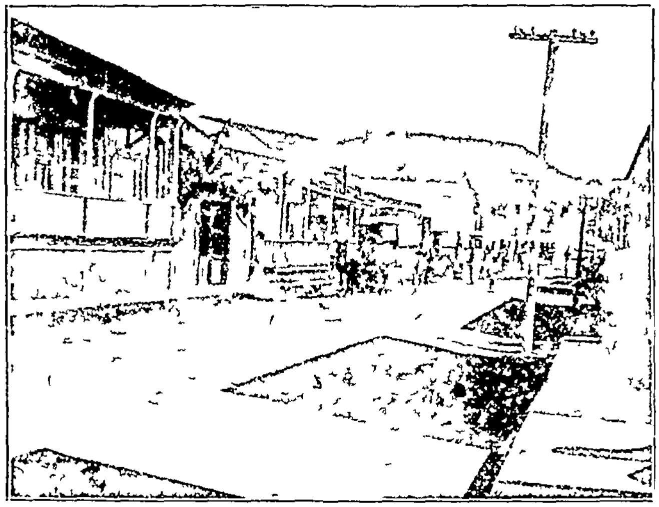
Transfer of wounded to the hospital ship *Relief* at Arroya

Physical condition—The ideal military surgeon in possession of the necessary mental and physical qualities to make him so is seldom seen The most active brains are often found in a frail body I have often seen in civil life surgeons of great reputation struggling with disease or its effects, or the victims of some congenital or acquired defects, who were wonders in the operating amphitheatre in spite of such disability I have seen more than once the saddest of all spectacles in professional life—a surgeon, himself the subject of an incurable disease, muster into service every particle of his reserve strength to perform a critical operation with a view of saving the life of another Achievements of this kind are possible in private practice but are entirely out of the question in military service The physical condition of the military surgeon must be as nearly perfect as possible A physical examination as thorough and as painstaking as in the case of a private can only decide upon the necessary physical qualifications of candidates for commission in the medical service For good reasons this rule is followed in the selection of medical officers for the regular army and there is no ground why the same requirement should not be exacted in the National Guard During my service at Chickamauga and in the Cuban campaign, I saw more than one volunteer surgeon who ought to have been excluded from the service for physical disability During a campaign the loss of a single medical officer may prove a great disaster Of all commissioned officers the surgeon is the most indispensable The vacant place of a line officer can be filled at a moment's notice without any serious loss to the service, not so with the surgeon His position is one requiring special training and one that can not be filled without crippling the medical service at some other point For this, if for no other reason, the medical officer must be in sound health and able to cope successfully with the hardships of a campaign In battle, and during the prevalence of an endemic or epidemic disease, the medical officer is the one above all others whose strength and endurance are taxed to their utmost extent His services are required by day and by night He has no rest, and unless in possession of an iron constitution, his strength fails him and he becomes, if not a fit subject for the hospital, at least a physical wreck, who, if he persists in continuing his work, will often do more harm than good A number of such instances came to my personal notice during the Cuban campaign A medical officer should not only be in full possession of health and all that this implies, but he should have been in training to endure hardships of all kinds from early childhood He need not necessarily be an athlete, but he should be able to walk twenty miles a day or ride forty without fatigue and then be ready to do a night's work should an emergency demand it The dancing halls and club houses are poor training schools for a successful military career The labor and hardships

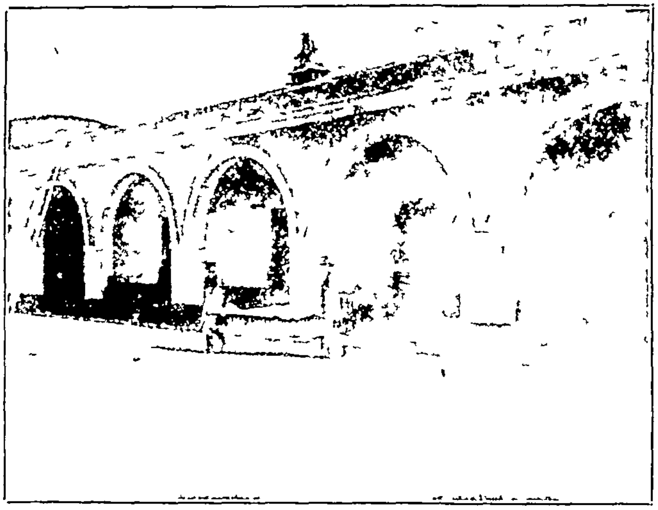


The Spanish military hospital in Ponce, Porto Rico encountered in hunting are best calculated to prepare the body for a life of great activity and privation Frugal living will not only prove conducive to the maintenance of health but will be the best means of initiating the surgeon to the uncertainties of the commissary department when on the march or in the field

Let every one who chooses the military career dispense with unnecessary clothing and luxuries during early life in order to accustom and adapt himself for his life work, which in time of war will bring the inevitable amount of viscissitudes and even suffering The medical officer must be a good horseman, which here not only implies a good rider, but a knowledge of the usual ailments of horses, the treatment, feeding and care of the animals To sum up, the military surgeon must be a man of vigor, made so by birth and training, with as few requirements in his habits of living as possible, in order that he may resist to the highest degree the influences of climate and disease and prepare himself for the hardships and privations incident to active warfare



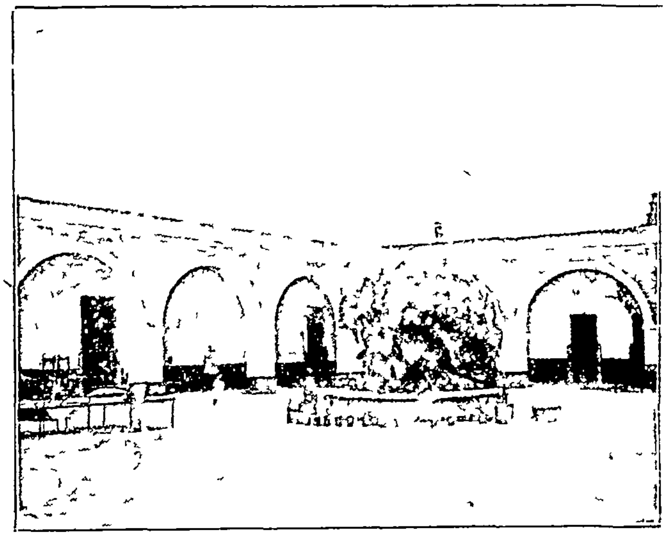
Ambulance train on the way to the hospital ship *Relief* in the harbor of Ponce



Litter work in the court of the Spanish military hospital in Ponce

Mental qualifications —A proper and adequate preliminary education is exacted of every surgeon in the regular army, without it he is not permitted to pass the medical examination Statistics show that a large percentage of the candidates are dropped at this stage of the examination This is a reflection on the system of medical education which continues to prevail in our country About the only evidence of proficiency the National Guard surgeon in most of our States is required to show is his diploma It makes but little difference when the diploma was obtained Evidences of a satisfactory preliminary education are not required In consequence of such an easy entrance into the medical service of our State troops many of the men who receive commissions are illiterate By hard post-graduate work they often become good physicians, but they seldom if ever make up for the early defects of their education, which seriously interfere with a successful military career Is it to be wondered at that when such shortcomings are discovered by their colleagues and officers of the line, they do not command the respect their commissions, should entitle them to? The reports made out by such men speak for themselves, and appear as black stains upon the department they represent The elevation of the standard of medical education by most of the medical schools throughout the country will gradually wipe out this blemish, but it will take many years before all of the diplomas can be accepted as sufficient proof that their possessors are entitled to recognition by the medical department of the different States Let us hope that a speedy and radical reform may be instituted in the different States which will accomplish the desired object, and which will make the commission of a medical officer of greater import in showing a higher degree of preliminary and professional proficiency than the diploma of any of our medical colleges This is a desideratum for the realization of which every one interested in the success and usefulness of the national guard should willingly use his influence Fortunately, there are no specialties in military practice The medical education of a military surgeon must be of the most liberal and broadest kind His practice is so varied that he may have to be physician, surgeon, oculist, aurist, etc, the same day The sphere of the regular army surgeon serving at a post includes in addition obstetrics, gynecology and diseases of children Every military surgeon must be an expert in physical diagnosis and examination of the eye and ear He must know something about dentistry, he must know how to extract teeth and how to put in a temporary filling in a carious tooth that can be saved He must be familiar with neurology, the use and application of electricity as a diagnostic and therapeutic resource In camp and field he is limited to his own resources in the diagnosis and treatment of all kinds of injuries and diseases He must therefore be well equipped with a thorough knowledge of everything pertaining to surgery and medicine, and is often called upon to represent the different specialties No amount of preliminary and professional education will make the military surgeon an efficient officer unless he is possessed of an inborn aptitude for the profession He must be able to apply and make use of his knowledge Many men of great learning never become successful practitioners Their store of knowledge fails them when they come to apply it The military surgeon in camp and field must be a man of quick perception He must be able to recognize malingering as well as disease In an emergency he must be in readiness to act intelligently at a moment s notice Hesitation is dangerous both to the patient and the reputation and good standing of the surgeon. Indecision creates mistrust, procrastination disaster. Quick decision and prompt action are the essential prerequisites of successful emergency work. Successful action, however, must be preceded by thoughtful, systematic preparation. The most successful surgeon is the one who adopts and follows the watchword, *semper paratus*. He should never be caught napping. Careful preparation makes prompt action possible. The successful surgeon makes his plans ahead and supplies himself with the necessary outfit, medicine, dressing materials and instruments before the emergency arises, and when it does so he is fully prepared to meet it. A lack of forethought and systematic preparation accounts for many shortcomings of medical officers in the field and camp, with the necessary evil consequences for those entrusted to their care.

Military spirit.—Any one who enters the medical service of the army as a life avocation will be disappointed unless he does so imbued with a proper military spirit. The military surgeon must be a military man and an integral part of the army, if he wants to do justice to his calling and the department he represents. I fear it is a lack of the proper military spirit in some of the medical officers in the regular army that is responsible for a well recognizable cleft between them and the officers of the line and field. If this is true in the regular army, it is only too obvious in the National Guard. The rank of the medical officers and their standing in military and social circles suffer when they are regarded and treated as an ordinary doctor. The West Point graduate, educated at the expense of the government, too often forgets that it takes more hard work and a longer time to make a good doctor than an officer. The officers of the National Guard, holding commission by the grace of their governor, do not realize sufficiently that their military surgeons have spent a small fortune and five years in acquiring a knowledge of their profession. They seem to forget, or at any rate often ignore, that when they go into camp or in the field they do so at a great personal and pecuniary sacrifice. Their absence from home, even for a short time, may cause a break in their practice difficult to repair. The medical officer is entitled to recognition as a military man, and if this is not accorded to him voluntarily, he must resort to measures that will enforce it. The lack of military dignity on part of the medical staff is due largely to a lack of the proper military spirit in the members which compose it, and to too great a familiarity between the surgeons and the officers and men. The correction of these evils can not be undertaken too soon, and when accomplished will add much to the dignity, influence and efficiency of the medical department of the army and State troops.



Court of the Spanish military hospital in Ponce

The medical officer who has enjoyed the advantages of an early military training in a military academy or the national guard, is the one best qualified to enforce military rules and assert the dignity of his position.

Punctuality.—The busiest men have always the most time to perform a duty or to meet an engagement at the appointed time. This rule holds good in all walks of life. The drones are always behind. In military life punctuality means everything and from this exaction the medical officer should never be excluded except for special and well founded reasons. In the regular army there is a way of disciplining the medical as well as other officers in coming to time in the performance of definite duties and in making out the reports. My long experience in the National Guard service has taught me, occasionally in a painful way, that the surgeons are often entirely oblivious to the matter of time, especially in the matter of making out and transmitting the regimental reports. It is the men who put off for tomorrow what should be done today, and who meet their engagements at one o'clock or thereafter instead of twelve, that render the life of their superior officers one of misery and full of disappointments. The men that accomplish the most are always ready and on time. The medical officers must be made to understand that a due regard for punctuality in performing their duties, in meeting appointments and in mapping out and forwarding reports is one of the most essential features of a successful military career.

Transfer of patients to the lifeboat in the harbor of Ponce

Courage.—It is still the general belief that, in times of war the military surgeon is exposed to less danger than the soldiers and officers in command. That this is not so is shown by the statistics of all wars. Although the position of the military surgeon is behind the fighting line, he is usually near enough to the enemy when serving in the front to be reached by stray bullets and bursting shells The number of surgeons killed and wounded in the performance of their duty in rendering first aid is by no means small in any war of magnitude In active warfare, however, the greatest danger to the surgeons is to be found in their constant exposure to contagious and infectious diseases, which follow large armies in all climates and during all seasons of the year To enter a yellow fever camp, to my mind, calls for more courage than to lead and command the troops in the battlefield Disease always claims more victims than bullets, and this is especially true of the present war with Spain The nation worships the heroism of those who fell before Santiago, but much less is said of the vastly greater number stricken down by disease, and who have lost their lives from disease, often after prolonged and intense suffering To the credit of the medical officers of this and other wars it must be said that they showed no fear, either in facing the enemy or what is vastly worse—disease When yellow fever made its appearance among the troops around Santiago, every man remained at his post and faced the danger without flinching Men from the North who had never seen the disease accepted the detail for duty in the fever hospitals without a word of complaint The medical officer must be endowed with more than ordinary courage to face the many dangers that surround him on all sides during every campaign Patriotism begets heroism and I make a well-founded claim for both for the medical profession represented in the army

Personal habits —The old adage that "It is easier to preach than to practice," is a familiar one and should be made to apply with the same force to doctors as preachers The first and most important duty of the military surgeon is to prevent disease This can often be done more effectively by example than by precept The military surgeon must guard the camp against disease He is looked upon and must be regarded by those under his care as the one above all others who can give them advice in matters pertaining to their health He is expected to do this by example as well as precept He must become a permanent object lesson in inculcating the importance of cleanliness in person and in dress His tent should be the cleanest and most orderly in camp Temperance in eating and drinking can be taught more successfully by action than by words A military surgeon under the influence of liquor will do more harm in encouraging the vice of intemperance than can be undone by weeks of lecturing Profanity is prevalent in every camp and while it is not the duty of the surgeon to supplant the chaplain in suppressing it, it should receive no encouragement by his example In his conduct toward the men the surgeon should be firm and dignified, yet kind and sympathetic, especially to those in need of his professional services An impetuous nature and an irritable temper create a rebellious spirit, which it is difficult to control by the most energetic measures Proper questions should be answered willingly and with sufficient clearness and adequate length to furnish the desired information, and not gruffly and snappishly, as is occasionally done without any reason or provocation Overwork and a disordered digestion are poor excuses for treating a subordinate in an undignified, ungentlemanly manner The military surgeon must be known in camp as a gentleman, not only by the officers but by every man under his charge, if he expects to be respected and to do justice to his high calling and responsible position

The military surgeon in war —The true qualities of the military surgeon are crystallized and best known during an active campaign It is in war that his ready resources will come to the surface and will be subjected to the severest tests It is in battle and during the prevalence of devastating diseases that his moral courage and physical endurance will be most severely tried It is under such circumstances that the troops will look to him most confidently as their protector and nearest and dearest friend It is not in peace but in war that the bond of true comradeship becomes tighter and tighter between him and the officers and men It is on the march in camp, and on the battlefield that the important function of the military surgeon receives the recognition to which it is entitled It is the wounded and the sick in a strange land that look to him for help and restoration to health It is the surgeon who so often receives the last message of the dying

The first and most important duty of the military surgeon during active warfare is to prevent disease and unnecessary suffering by giving early advice and resorting to timely precautions The location of camps, policing of the same, the water supply, food and clothing are subjects which must receive his early and earnest attention In this work he should receive the hearty co-operation of the officers in command and if this is not the case he has the moral and military authority to demand it It was not the medical department, but the arrogance or stupidity of the commanding general of the invading army that is responsible for the extensive outbreak of yellow fever during the Cuban campaign This experience is sufficient to teach commanding generals that it is unsafe in the future to follow such an example, as an imprudence of this kind, giving rise to inexcusable slaughter and indescribable suffering, will meet with universal indignation The military surgeon is in reality the family physician of the men placed under his charge He attends to the little ailments with the same care as though he had been sent for by a wealthy family and expected a handsome fee To be successful in the treatment of disease he resorts to the simplest medication Complicated prescriptions are dangerous and absolutely out of question in military practice The tablets containing drugs in the most concentrated form are a great blessing to field practice and should be relied upon almost exclusively in the treatment of disease The remedies needed are few, and if well chosen and applied will answer all indications A liberal supply of quinin, opium, calomel, strychnia, camphor, iron, arsenic, bicarbonate of soda and bromid of potassium will leave but little to be desired Turpentine, castor oil, alcohol and the anesthetics are about the only fluid medicines the military surgeon has any use for The breakage and waste in dispensing medicines in bottles are inexcusable in modern field work Fancy drugs and preparations should not be tolerated In the practice of surgery the military surgeon who wishes to attain the maximum success must be conservative Strict asepsis and conservatism are the two things which are *destined to make* miltary surgery successful Every surgeon must have special training in emergency work He must be perfectly familiar with the indications and technique of every operation which may become necessary in the field He seldom will have an opportunity to cut for stone, extract a cataract, remove an ovarian tumor or operate for other benign and malignant growths, but he must know how to treat a compound fracture in the most modern and approved manner, he must be skillful in the treatment of wounds of all kinds, and he must be a master in performing an amputation and in ligating arteries in any part of the body He must learn to perform all emergency operations with the simplest facilities and fewest instruments possible, in order to adapt himself in time to the exigencies of war The surgeon who can extemporize an operating table in the field and who can secure asepsis with the use of the camp kettle, soft soap and carbolic acid or sublimate and who can perform the most difficult operations with the simplest and fewest instruments, with little or no assistance, is the one who will accomplish the most and who will obtain the best results in the field

Ponce, Porto Rico, Aug 8, 1898

TREATMENT OF RETRODISPLACEMENTS OF THE UTERUS BY SHORTENING THE ROUND LIGAMENTS PER VAGINAM

Presented to the Section on Obstetrics and Diseases of Women, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June 7-10, 1898

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Dr Howard A Kelly, at the recent meeting of the American Gynecological Society at Boston, announced in a discussion that he had collected a list of forty-five different operations that had been suggested for the relief of retrodisplacements of the uterus Accepting this statement as true, what more suggestive fact could we have of the importance in which this affection is regarded by the profession, or of the assiduity with which the profession has devoted itself to its relief?

Much has been learned regarding the dynamics of the female pelvis, but much still remains to be discovered Plates representing saggital sections of the female pelvis taken from frozen sections have been transmitted from one generation of text-books to another, and the errors therein depicted have likewise been transmitted from one generation of medical men to another The section of a frozen pelvis represents the relation of the parts in that individual only, and in all probability does not correctly represent the relation of these parts during life It is a recognized fact that the uterus rests in a position of unstable equilibrium, varying in its position with every movement of the body and with every respiration, so that the average position of the uterus as obtained after an examination of many living women is the only way of reaching a conclusion as to even a proximal ideal position A great advance was therefore made in definite knowledge upon this subject when an investigation was instituted for the purpose of more positive information by examining *living* women, while standing in an erect posture By this method of investigation it has been reliably determined that when a woman is upon her feet, and that is the position in which all great effort is made and the forces brought into play which tend to retain or remove the uterus from its normal position—it has thus been determined that when the body is in an upright posture the uterus normally rests upon its anterior face and is suspended in a cradle or sling of tissue reaching from the symphysis pubis to the sacrum, known as the vesico uterine ligaments in front, and the utero-sacral ligaments behind The uterus is steadied in this position by the broad ligaments, reaching from either side of the pelvis to the uterus, and the round ligaments, which tend to restrain the uterus in its anteverted position, and indirectly to support the broad ligaments

Accepting, then, the broad principle that Nature is consistent in her work, and applies to the uterus the same mechanical principle that she utilizes in supporting all other organs of the human body, we must conclude that the uterus is supported by ligaments

The uterus itself is not an organ of any great weight, and requires only delicate structures to retain it in its proper location in the pelvis It is, however, subjected to intra-abdominal pressure which must be counteracted Let us see, then, how this is accomplished Resting as it does, upon its anterior surface, or in other words, having its anterior face looking downward, it receives the intra-abdominal pressure expended in the pelvis upon its posterior surface If then the sling of tissue which sustains the cervix high in the hollow of the sacrum is sufficiently strong to retain it in that position, all intra-abdominal forces impinging upon the uterus tend to force the fundus still farther to the front, and so help to maintain its normal anteverted position We must therefore look to the tissue between the cervix and the sacrum, viz , the utero-sacral ligaments, as the chief factor in maintaining the anteverted position of this organ If for any reason these ligaments become over-stretched or relaxed, so that they lose their contractile powers, the entire uterus settles in the pelvis, and the cervix swings correspondingly to the front, thus preventing the resultant of intra-abdominal forces from carrying the fundus to the front until this stretching process has reached such an extent as to actually permit them to impinge upon the anterior segment of the uterus and eventually carry it into a position of retroversion In this process all of the ligaments gradually become relaxed as the strain is put upon them until not only one or two, but all of them lose their tone, and the uterus becomes hopelessly displaced Such, to my mind, is the rational explanation of the etiology of this affection In a normal unimpregnated uterus the round ligaments alone may be relaxed to any degree you choose and the uterus will still remain in place, the same thing may be said of the broad ligaments, but once you relax permanently the utero-sacral ligaments, and you at once set in motion the process that eventuates in retroposition

The most frequent cause of this relaxation is undoubtedly the absence of prompt and efficient involution following parturition Next in order of causation, I place prolapsed and diseased appendages, which, resting upon these structures and becoming adherent to them, so interfere with their nutrition that they eventually relax and allow the cervix to swing to the front Another and not infrequent cause is the presence of a fibroid tumor located near the uterine insertion of the utero sacral ligaments

The condition of retroversion and retroflexion is not confined however to married women In single women, especially in cases of congenital retrodisplacements, the etiologic factor is also to be found in the cradle or sling of tissue reaching from the symphysis pubis to the sacrum, but instead of being posterior to the cervix, the cause of displacement is to be found in the vesico-uterine ligaments, and more especially in the manner of their insertion into the uterine tissue Reynolds of Boston, following Foster and Ranney, and Hart and Barber, has called attention to the fact that the method of attachment of the tissues about the cervix is an important element in retaining the uterus in its normal position For example, the anterior position is maintained by the tissues in front of the cervix being inserted into it at a higher level than that at which the tissues posterior to the cervix are attached If, for any reason, by an anomalous anatomic arrangement, the tissue in front is inserted at a lower level than the tissue behind, the natural pull of these ligaments tends to throw the fundus backward This condition is exactly the one that is so often found in congenital displacements, and in fact in all retropositions of the uterus as found in unmarried women, and probably the majority of these are congenital—that is the cervix being in the axis of the vagina and the anterior wall extremely short, showing that the utero-vesical ligaments are inserted very low down This principle has been taken advantage of by Reynolds of Boston, in an operation for the relief of this condition in virgins, in which he simply detaches utero-vesical ligaments from their low insertion and stiches them to the anterior face of the uterus at a little higher level He reports a number of cases in which he has applied this treatment successfully This certainly seems a most rational procedure

In accordance with the dynamics as previously explained, however, the most rational relief of retrodisplacements is to be found in some operation which will shorten or restore to their normal condition the utero sacral ligaments An effort has been made to accomplish this by some German operator and also by one or two surgeons in our own country, but the difficulties of reaching these structures, either through the abdominal wall or per vaginam, are so great that thus far no satisfactory results have been obtained It is my belief, however, that in shortening these ligaments is to be found the proper method of treating these persistent cases Next to the utero-sacral ligaments the most rational structures to be utilized in an operation for the relief of this condition are the round ligaments While the functions of the round ligaments, are to direct and limit the excursions of the fundus from its normal position, rather than to sustain the weight of the organ and resist the pressure upon it, nevertheless experience has shown that they are quite equal to the latter offices, at any rate for a sufficient length of time to allow the utero-sacral ligaments to regain their function

Today by far the most popular operation for the cure of retroversion, and the one most frequently employed by operators throughout the country, is either the original or the modified Alexander operation The objections to Alexander's operation, however, are many 1 It has a limited field of application, being restricted absolutely to cases in which the uterus is perfectly movable and the appendages free from disease Such cases in my experience constitute but a very small proportion of those requiring relief 2 The round ligaments can not always be found at the external ring In this connection it may be noted that a number of cases have been reported in which an anomalous insertion, either into the fascia about the internal ring or at the outer border of Poupart's ligaments has been found Moreover, in many instances the ligament is so frail in this part of its course, that it does not withstand the strain necessary to draw it out of its bed and breaks in the procedure 3 The operation necessitates two incisions and two objectionable scars in the abdominal wall 4 The operation in the hands of every operator experienced in this procedure is followed by hernia in a certain percentage of cases

In order to extend the field of application of the Alexander operation so that it might include cases of retroversion with adhesion and with diseased appendages, Drs Wylie and Dudley of New York, and Dr Mann of Buffalo, have suggested and put into practice a method of shortening the round ligaments within the pelvis through an incision in the abdominal wall The procedure in the hands of these three operators differs only in the manner in which the ligaments are doubled back upon themselves The results, however, have been satisfactory, and the operation is still practiced by them all The objection to it, however, is that it necessitates a laparatomy with all its attendant discomforts and possible hernia, and in simple, uncomplicated cases is altogether too serious a procedure for so simple a condition Other operators, in their endeavor to avoid laparotomy, have opened Douglas's pouch through the vagina, broken up the adhesions, thus setting the ovaries and appendages free, and then shortened the round ligaments at the external ring

As this operation which I am doing has to deal with the round ligaments, I have expended most of my time in discussing that structure as the natural support, without entering upon the relative merits of abdominal fixation, which I believe has a certain field of application, although a limited one

With the work of these operators in mind the idea naturally suggested itself of opening the peritoneal cavity through the anterior vaginal fornix, breaking up the adhesions, restoring the uterus to its normal position and shortening the round ligaments through the one incision This has been found a perfectly feasible procedure, and has met with such success at my hands that I have ventured to urge its adoption in all cases of retro-position of the uterus, whether simple or complicated

The technique of the operation is as follows After rendering the parts thoroughly aseptic, curetting the uterus and packing it with iodoform gauze, the cervix is seized by a vulsellum forcep and dragged down to the vulva A transverse incision is made just in front of the cervix through the vaginal wall, as in the procedure for vaginal hysterectomy The bladder is then stripped from the anterior face of the uterus and the finger pushed through into the peritoneal cavity Grasping the edge of this transverse incision near its middle point by two artery clamps, the anterior vaginal wall is put upon the stretch and the longitudinal incision is made in the anterior wall throughout its whole extent The bladder is then dissected off the vagina for a distance of half an inch either side of this longitudinal incision The purpose of the latter incision and the separation of the bladder is to secure sufficient room through which to work The dissection is done almost entirely with the handle of the scalpel and the finger, and the hemorrhage is inconsiderable

The finger is now passed over the uterus and by careful but persistent efforts the adhesions are broken up, both those to the uterus and those to the appendages By hooking the index finger over the broad ligament near one cornua of the uterus, the latter organ is gradually delivered into the vagina The ovaries and tubes are readily drawn down afterward, where, in full view and of easy access, they can be treated in whatever way may be indicated The diseased portions of the ovaries may be resected, portions of the Fallopian tubes removed, or the appendages of one side may be removed and conservative work done upon the other side, or if the appendages of both sides are found hopelessly diseased, they and the uterus can be easily removed

The proximity of the horn of the uterus to the vulva enables a ligature to be applied about the appendages and as near to the fundus as may be desired After the appendages have been cared for, the round ligament, first of one side and then of the other, is caught by an artery clamp from one to one and a half inches from the horn of the uterus and dragged down in the form of a letter "U" In this position a fine braided silk ligature is passed through the ligament at as remote a distance from the forceps on the outer side as will allow approximation when it is passed through the ligament near to the horn of the uterus It is then tied, thus shortening the round ligament to an extent equal to the length of tissue taken up in the loop Two other smaller sutures are passed between this one and the forceps, and finally a third one, catching the tip of the loop and attaching it to the anterior face of the uterus just at the origin of the round ligament The horn of the uterus thus treated is allowed to resume its position in the pelvis, the other horn of the uterus drawn down and the round ligament of that side treated as in the first instance The uterus is then allowed to take its normal position of anteversion, and the bladder tissue that was dissected from the uterus is adjusted in its original position The tissues are not sutured to the uterus, but a running catgut suture is applied through the extent of the longitudinal incision The vagina is then comfortably packed with iodoform gauze and the operation is completed In cases of congenital retroversion not only are the round ligaments shortened by this operation, but uterine insertion of the utero-vesical ligaments is carried up on the anterior face of the uterus and the abnormal anatomic arrangement previously described is thus remedied

The commendable feature of this operation is its wide application Simple [illegible] version of the uterus can be relieved by the [illegible] of a properly fitting pessary, and it is a question whether the condition demands the application of any surgical procedure beyond that The circumstances of the individual case, however, must determine action in that direction The chief point of attention is the complications attending this condition Through the anterior vaginal wall all complications can be readily dealt with, from the simple removal of diseased appendages throughout the whole range of conservative procedures, and even to the extent of myomectomy for small fibroids and ovarian cysts of all kinds During the past winter I have operated upon cases of retroversion with fixation, complicated by simple cysts of the ovary, by purulent cysts of the ovary, by pyosalpinx, and in one instance by a dermoid cyst containing about a quart of material

Now as to results The total number of cases submitted to this operation is thirty-one The first operation was done in March, 1896, and the last done in May, 1898 In all my cases of simple retroversion treated in this way the results have been entirely satisfactory, not only in the anatomic cure, but also in the complete removal of all symptoms Of these cases there have been six I have had one case complicated by a dermoid cyst and five cases complicated by adhesion, club-shaped Fallopian tubes and cystic ovaries In all these cases the ovary has been resected and the Fallopian tube amputated In all the other cases the appendages of one side have been completely removed for destructive diseases of those organs, and in about one-half of them conservative work has also been required upon the remaining appenages Of these cases, one patient from whom the appendages of one side were removed became pregnant shortly after the operation and was delivered of a healthy child in September, 1897, after a period of five years' sterility This patient has been examined by me since and the uterus found freely movable and in perfect position

A second patient, in whom conservative work was done upon the appendages of one side, the appendages of the other side being healthy, after a period of four years' sterility and intense suffering, became pregnant shortly after the operation, and since my arrival in Denver I have learned through my assistant that she has been delivered of a child weighing nine pounds, and that she has passed through this gestation with greater comfort than any of the three previous ones

A third patient is now pregnant five months In this case the appendages of one side were removed and the round ligaments shortened as usual She reports no unusual symptoms during her gestation up to this stage

As to absolute and partial failures After having done the operation a number of times, it occurred to me that perhaps it would be an improvement upon the usual method of shortening the ligaments to free the ligament from its bed, double it upon itself and then allow it to retract beneath the peritoneum To accomplish this an incision was made through the anterior face of the broad ligament just over the round ligament, and an aneurysm needle passed underneath the round ligament and slid back and forth to free the ligament from its bed The ligament was then drawn out, doubled upon itself and stitched, and allowed to retract beneath the peritoneum

In the first case this maneuver was attended by some hemorrhage, but not enough to deter me from applying it a second time In the second case, however, a hemorrhage occurred, not alarming in its extent, but most persistent in its character This hemorrhage came from the blood vessels accompanying the round ligament in its course After trying various methods of controlling the hemorrhage without destroying my work, I despaired of success in this way and concluded it was best for the safety of the patient to at once remove the uterus, which I did That was the only case in which any hemorrhage, even of an annoying character, has attended the work It was due to the modification which I adopted and which was promptly abandoned

In the cases in which it became necessary to remove the appendages of one side, I endeavored to economize time by drawing up a loop of the round ligament of that side and including it in the common ligature In accordance with my custom, I used catgut ligature, and have had the mortification of discovering that in two of these cases, two months after the operation, the ligament of that side has given way and the uterus has swung around to the opposite side in a position of partial retroversion Both these cases, however, had suffered from persistent irreducible retroversion, and since this accident have both been completely relieved by the insertion of a retroversion pessary Hereafter I have decided not to include the round ligament in the ligature applied to the appendages, but to go through with the routine process of shortening the round ligament upon that side as well as upon the other By doing so I believe that the accident referred to can be avoided All of the other cases have been completely relieved of symptoms, and when last seen were anatomically cured

The more experience I have with the operation the more satisfactory it becomes In not one of the cases has there occurred a single complication in the process of convalescence There has been no shock, no temperature The after-treatment is extremely simple The vaginal and uterine gauze is removed upon the fourth day, and thereafter no further treatment is required except a daily vaginal douche

DISCUSSION

Dr Albert Goldspohn, Chicago—I congratulate the doctor on the commendable work he has been doing in this direction The efforts of attending to the indications for pathologic conditions in the female pelvis through the vagina, originated, we may say, with Duhrssen, Mackenrodt, Aug Martin, of Berlin and others, and are somewhat repeated in the operation described here I have done the same operation about a dozen times without difficulty I consider it a feasible operation, and certainly one to be esteemed above those other unsurgical procedures which need to be relegated to the past I mean ventrofixation, vaginofixation and ventrosuspension These procedures are repugnant theoretically and practically to surgical instinct, and I am surprised that people of so much scientific common sense as the Germans should be the fathers of these procedures We need such loans from the domain of pathology, for some extreme cases of prolapse, for instance I will not totally condemn any one thing that was ever done by rational physicians with repeated success

Doctor Goffe is not entirely correct in placing the symphysis pubis at a lower level than the tip of the coccyx in the standing woman That is an error The dynamics with relation to the genital organs as stated by him are in the main correct But intra abdominal pressure must be carefully defined if we would escape objections from our opponents in this question The reason why I have not more frequently done vaginal shortening of the round ligaments or vaginal fixation of the round ligaments, as now done chiefly by Wertheim, of Vienna, is because we need to adopt a different plan in our indications of operating for displacements of the uterus and its appendages The reason why so many cases are not wholly well that have been properly treated as far as the operation went, in restoring the uterus alone to normal position, is because the same treatment was not extended to the adnexæ also The majority of retroversions of the uterus have such conditions of the adnexæ that they require conservative operations as the Doctor has suggested But the reason the ovaries became so diseased in a large proportion of cases is because they were previously displaced, they were away from the lateral normal location against the pelvic wall, they had migrated toward the median line of the pelvis and to a far lower plane, where they were subjected to traumatism between the uterus and the rectum, as well as to the evils of venous hyperemia The uterus when retroverted is crowded on to the displaced ovary by abdominal pressure If, then, the displacement led to the disease in the ovary, we need to correct not merely its condition, but above all, its position also We must do something with the displaced ovary after we have resected it, secure it in normal position This requires good access to the lateral walls of the true pelvis, which is not at all obtainable by any vaginal incision For this can only intensify the ovarian displacement, but not correct it For that cardinal reason, I can not make use of the vagina anywhere near as frequently as I would The principle the Doctor states of the sacro uterine ligament maintaining the equipoise of the uterus in normal anteversion is correct, although the numerical proportion of inefficiency of the sacro uterine ligaments, as stated by him, is too great

Dr Henry P Newman, Chicago—I was highly pleased with the paper and with the stand taken by Dr Goffe Ten or twelve years ago, when this work was advanced, particularly the round ligament operation, we had very few that would sustain us in our work, many members of the profession believing it to be visionary and work that would only last for a short time At the present time it is highly commented upon all over the country The objections, however, that are met with even today that deter many physicians from adopting the round ligament operation are, I believe, simply faults in technique By making the primary incision over the external ring, thereby finding a ligament that is well developed, when it is drawn out it is the abdominal portion of the round ligament The abdominal portion of the round ligament is a different structure, is of different size, more stable and decidedly a better support than that of the inguinal canal portion of it Moreover, the inguinal canal portion of the ligament when drawn on stays in the old operation, that is, by being stretched it is frequently attenuated, is reduced materially in size, and is not the intra abdominal ligament at all It does not accomplish much in bringing and holding the uterus forward, and consequently the operation is a failure If the round ligament is drawn out on a line with the attachment of the uterus you are sure of drawing out the part of the ligament which needs to be shortened, namely, the intra abdominal portion This much and other points in relation to operating upon the external ring are features that I brought out some ten years ago, and have adhered to with most satisfactory results, and those gynecologists who have followed this method of operating have been equally well satisfied I do not think, as the Doctor stated, that the etiology of displacements of the uterus is confined to these two ligaments I refer particularly to congenital cases so called or cases that are really faulty at puberty The uterus at birth in these cases is uniformly an infantile organ, but after puberty an arrest of development means under all circumstances a puerile condition of the organ There may be a long cervix, and a fairly well developed fundus lying upon a conical cervix This is a factor in producing displacements

Dr Howard A Kelly, Baltimore—I naturally feel interested in this discussion as I have operated a great many times for these conditions I believe no surgical operation will restore *ad integrum* these tissues and the uterus where they were before If this is not accomplished by plastic operations and rest preventing a tendency to descensus, then the question is one of the best surgical operations from a mechanical standpoint I believe all these operations should be supplemented by restoration of the floor of the pelvis I do not believe that the round ligaments support the uterus They are always found kinked in abdominal operations and hence can not be supported With the uterus retrodisplaced, the abdominal force increases the trouble, while if the uterus is anterior it increases the anterior displacement A thread applied to the fundus holds it in this normal position and the pressure then falls upon the posterior surface The floor should then be restored I have operated through a one and a half inch incision over four hundred times, and only about 2 per cent of the cases relapsed About twenty of the women have become pregnant All are doing well but one, and in her case agglutination occurred Fixation is not the proper procedure for these cases, it is suspension that is required None of the cases died Severe pain has not been noted in any case I do not include the fascia or muscle in my stitch, but only the peritoneum and subperitoneal tissue

W B Craig, Denver—I would like to say a few words in support of the Alexander operation I have had no experience with vaginal fixation, but have performed the Alexander operation in nearly a hundred cases I have been looking for some of the accidents and dire consequences which I read of in the medical journals, and I am glad to say to you that I have been disappointed I know of no case of hernia following any of my operations, and I kept track of the majority of my cases No dire consequences have followed from infected ligatures, or cases of sepsis from any cause In a body of this character these operations are purely technical If we are attempting to instruct the general practitioner who is rapidly becoming accustomed to surgical work, both special and general, then the matter takes on a different aspect Any surgeon or student with a little preparation can do an Alexander operation with comparative safety, but it takes an expert to do a vaginal operation, especially of the nature of those described here this afternoon Of course, the old method in the Alexander operation has been discarded I do not believe the time will ever come when abdominal section will be absolutely without mortality This operation (the Alexander) has practically no mortality In my series of cases I have had possibly one case of recurrence of displacement Dr Kelly struck the keynote when he said that anything that will hold the uterus forward for a short time until we get what is known as involution or reduction in the size of the organ will effect the purpose It is much simpler to make an inch and a half incision in the groin than in the belly, as we do not have the risk of adhesions, of volvulus and other occurrences which occasionally follow the most careful abdominal operation

S C Gordon, Portland, Maine—There are two or three points in connection with Dr Goffe's paper that I wish to touch upon I doubt very much the proposition made by Dr Goffe that the utero sacral ligaments have much to do in supporting the uterus It seems to me the broad ligaments have very much more to do with supporting the uterus than any thing else In relation to the support of a uterus which has a certain amount of descensus, it seems to me that we must have something at the top in one way or another to hold it forward The only exception I would take to Dr Kelly's method is that I would use catgut instead of silk, feeling sure then that I would have nothing which was going to act as an irritant and produce trouble afterward After all, if union of the peritoneal surfaces is desired, it may be obtained by good catgut, and you have an absorbable material which is taken care of, so that between Dr Kelly's operation and the operation for shortening the round ligaments, I should confine myself to those two, and should always do them through an abdominal opening I am not much in favor of vaginal operations for remedying or treating these conditions We can treat these conditions so much better through a small abdominal opening than by resorting to the long process described by Dr Goffe I do not like it, but Dr Goffe does I have no doubt I do believe, however, that through a small abdominal opening we can get at things and do them much better, we can do conservative operation upon the ovaries and tubes and put them up where we want them But it seems impossible to me when we resort to the vaginal operation Then, again, no vaginal operation can be done without resulting more or less in the formation of scar tissue which may become a source of pain So the point is this with me Abdominal section with fixation or shortening the round ligaments by either the Dudley or Mann operation, Mann's preferably, fix the uterus forward a little while and the thing will take care of itself

Dr Henry O Marcy, Boston—At one time I was very enthusiastic in regard to the Alexander operation I was one of the first surgeons in this country to adopt it and have had considerable experience with it, and have utterly abandoned it It is a popular operation with us in Boston, but as I have seen so many cases of hernia that have presented themselves to me after this operation, I am compelled to believe that it is the exceptional operation that we should do It may be advisable to do it under certain conditions, but the surgeon must know the condition of the pelvic structures We know that in the vast majority of cases there is something besides the mobility of the uterus with which the surgeon has to deal, and that something is an unknown factor unless we open the abdomen For years I have adopted the method of opening the abdomen, as advocated by the last two speakers, determining the factors with with I had to deal, and instead of using silk, as I believe Dr Kelly does, I use the animal suture on either side close to the cornu of the uterus, making double fixation I believe Dr Kelly puts one suture into the fundus and another a little posterior to it There is considerable advantage in placing sutures on either side, it does well in my hands, and whatever means we resort to we should be careful as to the other factors, to wit, the endometrium, the cervix, the perineal structures, and look after the circumferential factors as well as the one condition of malposition of the uterus proper

Dr Charles I Bonfield, Cincinnati—In regard to the etiology of these cases, it seems to me Dr Goffe has very much exaggerated the role the utero sacral ligaments play in supporting the uterus If any of you will take a case where the uterus is in its normal position, pull it down to the vulva, and take pains to introduce the finger into the vagina and feel where most of the traction is made, you will find it is not altogether in the posterior cul de sac

Another point is the normal tone of the structures that hold all the abdominal organs in place Most of you must have observed cases of slight ventral or inguinal hernia in which it was considered unnecessary to wear a truss, and yet when these patients became run down in health and the tissues became lax the hernia gave much more trouble When their health was improved again their hernia practically disappeared I have had cases that have gone on for five or six years without a truss who had worn it for years They become ill with pneumonia or typhoid fever, and again the truss has to be worn This is a factor which should be considered in treating uterine displacements

Dr Milo B Ward, Kansas City—I can not see how it is possible for us to make such a bugbear of entering the abdomen and dissecting the vagina, bladder and uterus with perfect impunity It seems to me, every case of retrodisplacement or of retroflexion can not depend upon the utero sacral ligaments A retroversion may do so, but certainly not a retroflexion If you put your finger in the cul de sac of Douglas the uterus will fall back quickly if you do not keep it there The utero sacral ligaments have nothing to do with it Every case of retroflexion is pathologic only when adherent by some condition of the appendages holding it there or a fibroid in that portion of the uterus lying next to the cul de sac So we must do something with the appendages in all cases That being true, we must go into the abdomen I can not, I am sure, go into the vagina as the essayist can and bring forward adherent appendages by looping the finger over the fundus of the uterus, because I find in hysterectomy, while I have gotten the position before and behind me and have every opportunity to get in behind the uterus, I use a hook to bring it forward, I can not do it with my finger If we operate through the abdomen, which we ought to do in nearly all cases, we can shorten the round ligaments as it is done in New York and other places, or as I have done it in my operations I loop the round ligaments to the anterior aspect of the uterus thereby shortening them This can be done in a minute or two with kangaroo tendon, it is perfectly safe, and holds the uterus a short time until the pubic bone becomes stiffened, and it remains as long as you want it I do not believe the Alexander operation is applicable in these cases, because if we do the operation at all, we are doing it on a case that is not very pathologic, for the reason the uterus is movable, and pessaries will act as well as an operation and are certainly much safer

Dr William H Humiston, Cleveland, Ohio —As I stated a year ago, I have not used the Alexander operation, for the reason that if we have disease of the adnexa the case can be cured without that operation If you have a misplaced organ for a number of months or a year or more, if the diseased condition is continuous, there is a change in the tubes and ovaries, and by bringing the uterus forward, after having curetted the diseased mucosa and reduced the size of the uterus, it will remain in place if supported six or eight weeks by a pessary The majority of cases of retrodisplacement of the uterus only exist for a short time and can be cured simply by placing the uterus well forward and supporting it for a few weeks with a pessary, then the pessary can be removed and the uterus will remain in place If you have changes in the adnexa, then the uterus is liable to go backward again Therefore, in the Alexander operation you have a movable uterus, you must have the appendages healthy or the mere shortening of the round ligaments is not going to relieve symptoms If you have displacement with healthy adnexa, the Alexander operation is not indicated, and mild curetting and placing the uterus forward are sufficient In cases where we have diseased adnexa, I open the abdomen for the purpose of examination I anchor the uterus forward, and use kangaroo tendon with which to hold the uterus to the abdominal wall I do not scarify It will hold the uterus there a sufficient length of time for the adhesion to take place It is elastic and it will relieve the case

Dr W O Henry of Omaha—I can hardly agree with the essayist regarding the anatomy that he gave either as to the position of the symphysis pubis when the patient is standing or as to the importance of the attachments, both anterior and posterior

In regard to the operation of Dr Goffe, I should say it is a difficult one, and an unnecessary one as a rule Personally, I prefer to open the abdominal cavity and attach the uterus after the manner recommended by Dr Kelly, by the slender peritoneal attachment, and I think the remark he made should be emphasized, because I believe there are many cases in which bad results have occurred after ventrofixation In such operations as ventrofixation, where the peritoneum is scarified, we get an absolutely immovable uterus But when a silk ligature is introduced through the entire thickness of the abdominal wound, you get a strong enough peritoneal tissue to hold the uterus in place Where there are no adhesions and the peritoneum is all right, where the uterus is not necessarily large, no operation is needed In many cases the uterus can be replaced and patients cured of their trouble by the use of a suitable pessary I believe in the use of the pessary in such cases, but where an operation is necessary I still believe in operating by the abdominal method I open the abdomen, attach the uterus by two ligatures to the abdominal wall If you have two ligatures within each other you are likely to get a dropping into a little nook a piece of omentum or bowel, strangulation taking place, and necessarily you will have to reopen the abdomen A single ligature for suspending the uterus will generally answer in the majority of cases

Dr George J Engleman, Boston—The subject under discussion is a very broad one, and we all have our preferences My own preference has been to attempt to restore normal conditions as far as possible, and not to replace one fixation by another, and, of course, fixations are now largely given up, likewise suspension We must all yield to Dr Kelly's success and the number of his cases From close observation extending over quite a long time we must all admit that fixation is injurious unless it is resorted to in older women, where possibly the appendages have been removed and prolapse has occurred I have seen a number of cases in which the delicate ligament has been stretched four or five inches or more, and yet it did not accomplish the object If the good is accomplished in a given time, say in two or three weeks, I have no doubt the ligament holds But frequently it is elongated more and more, and unless the normal conditions are restored, the operations are failures I have preferred the shortening of the round ligaments with the restoration of other co existing conditions It has appeared to me that if we repair an old door we must repair the hinges, not nail it down either open or closed, but restore it as far as possible to normal conditions, and for that reason I prefer the shortening of the round ligaments through an abdominal incision in order to deal with the appendages, which in so many cases are at fault

Dr James H Etheridge, Chicago—I have finally settled down for the past three or four years to abdominal fixation Personally, I think there is very little difficulty in doing an operation through an inch or an inch and a half incision As to ventrofixation, I have done many operations of this kind with only one abdominal suture I suture through and through the abdominal wall, and one intra abdominal suture is all I generally use in doing this operation I have observed throughout this discussion that but very little allusion has been made to Dr Goffe's paper I am very glad to have heard Dr Goffe's paper, because it is something new, and I want to hear what he will have to say three or four years from now I still think I shall continue to do the abdominal fixation operation

I am very much impressed with Dr Ferguson's idea of suspending the uterus in this way I cannot but believe that something will occur in loosening the stumps around the ligament, and they will slip back into the abdomen, one side or another He says that is the fault of the operator or in the technique of our operations If that occurs, he is hopelessly in the minority in the way of getting a reasonable expectation of good results from it

Dr Joseph Price, Philadelphia—In regard to the precise position of the ligature in these operations by Dr Kelly, it has been disputed thrice or more by good men practicing the operation, each criticising one another's technique One inserts the suture at the fundus or posterior to it, and the other a little more anterior Thus, a paper was read by Dr Ashton, one by Dr Penrose, and I think a third by Dr Noble, each differing in the mathematical degree of position of the ligature

Dr James H Etheridge, Chicago—I understand Dr Kelly uses silk, and Dr Gordon catgut I have always used silk worm gut, leaving it in three weeks, taking out the abdominal stitches at the end of eight or ten days, and leaving the through and through silkworm gut stitches in three weeks From past experience I have had in digging out silk material and other things from sinuses, I have gradually given up the idea of leaving a fixed suture in the uterus

Dr C E Ruth, Keokuk, Iowa—I have had considerable experience and some disappointments in trying to relieve uterine displacements I think a pessary has its place in suitable cases Had I known what the condition of the uterine adnexa was, I am quite sure I could not so well deal with the adnexa through the incision which Dr Goffe makes as I could through an abdominal incision I have done quite a number of ventrofixations that were very unsatisfactory, so far as relief from the symptoms was concerned for which the operation was done, and I have practically abandoned the operation for a year and a half, not believing that it should never be done, but I have not found a case in that time in which I thought the operation was indicated I have since done it a few times but I very much dislike to substitute one pathologic position for another I am very slow indeed to believe that all cases of uterine retroversion and flexion are pathologic and demand treatment I believe we will better subserve the interests of our patients and own reputations if we make a small abdominal incision, and be certain as to the existence of a pathologic condition of the uterine adnexa As to leaving unabsorbable materials in the abdominal cavity, I am less and less in favor of it as the years go by

Dr Joseph Eastman, Indianapolis—There is one point that was touched upon by the last speaker and Dr Etheridge with reference to leaving material, such as sutures which is not absorbed, and which I think is important Silk, for example Recently Dr Tait has abandoned using anything else but silk For a number of years I have boiled my silk, and then added quite a strong solution of carbolic acid to it I have no trouble in digging out silk, and I think Mr Tait resorts to a similar method I do not think we should abandon silk altogether in our intra abdominal work

Dr A H Cordier, Kansas City, Mo —I desire to offer a mild protest as to the ease with which the essayist would have us believe that this operation can be done through the vagina I feel very much safer to make a small incision in the abdomen, open from above and remove the adhesions While I use silk in all my abdominal work in the peritoneum, the placing of the silk ligature is an important thing If the silk ligature should become infected at any time in the future in the position here (illustrating), it would find its way out through the bladder two or three months later if buried in the tissues That would be a serious objection to the use of the buried silk suture in between the uterus and bladder itself I would also disagree with the position of Dr Ferguson in regard to making three openings in the recti muscles, because he takes a portion of the round ligament that stretches during pregnancy, shortens it up, so that he has nothing but two stumps to the abdominal incision, and as pregnancy advances these little stumps will not stretch like a ligament which is seven inches long running from the tubes up through a canal that is movable The Doctor will find that this will be a serious objection to the use of the operation he has so beautifully illustrated with his diagrams today Dr Goffe has presented a most excellent paper, but I wish to protest against the idea that it can be done easily with the adhesions separated and the uterus placed forward in position in a mass of intestinal leaks that will require possibly a future operation to repair

Dr A H Ferguson, Chicago—I believe Dr Goffe speaks of his method as a new operation I think if the literature is thoroughly gone over he will find that this is not correct, and in the absence of Dr, Byford, I wish to say that he presented a paper in which he described this same operation, which he does through the vagina It was described several months ago in Chicago In reply to Dr Cordier, I wish to say that there is a distinction between stretching and hypertrophy when pregnancy takes place

Dr Albert Goldspohn, Chicago—In regard to the question of priority of vaginal shortening of the round ligament, I beg leave to say that the first man who did it was a German in Dresden, whose name I can not recall It was then done by Wertheim of Vienna, from which we Americans have it Dr Byford of Chicago was the first man probably in the West who did it after those gentlemen

Dr Joseph Price of Philadelphia—Dr Kelley in his remarks spoke of pregnancy occurring in 5 per cent of the cases in which he had corrected displacement of the uterus, or 20 in the 400 cases treated by him The percentage of pregnancy following the old fashioned simple methods of correction of uterine displacement was much larger Dr Bantock records a case returning from Africa to London for the correction of a posterior displacement thrice Thrice a pessary was replaced and thrice she conceived That has been my experience in several instances I am very old fashioned, quite as much so as Emmet, in efforts at correcting displacements of the uterus by old fashioned simple methods I am not willing to admit for a moment that Hodge, Smith, Hewitt, Gaillard Thomas and others of the old school of gynecologists were fools and false in their statements when they told us they used pessaries successfully Many of these displacements of the uterus can be relieved by the application of suitable pessaries While I have the reputation of cutting almost everything, I want to take this opportunity of correcting that error The character of suture material that we should use in our surgical work is very important I have removed great quantities of it Two or three days before leaving home I removed ligature material for three consecutive days from one patient This was a doctor's wife who had suffered the tortures of the damned for some days, and I found her uterus held down with guy ropes that Dewey ought to have to tow some of his monarchs with (Laughter and applause) I have released more ventrofixations than I have ever done I have been repeatedly told by husbands that their wives got out of bed every half hour or so for a year or more, but by putting them to bed, freeing the uterus, omentum and bladder, and possibly removing a dead ligature they have gotten along nicely

In all fairness to Dr, Goffe, I wish to say that his paper is a scientific one and the fixation of the uterus in the anterior vault is one that in all probability will give less post operative annoyance and sequelæ than others that have been so long practiced The criticism offered with regard to the ease of the operation are like those of vaginal hysterectomy It was a long time before physicians recognized that vaginal hysterectomy was an easy operation It was really unfortunate they discovered it was an easy one, and yet it has taken the profession many years to recognize that fact

Dr GOFFE (closing the discussion)—I have very few remarks to make A great many points have been suggested with which I do not agree, and while I should be glad to answer them in detail, I am afraid it would take too much time of the Section to do so We are all agreed that a simple retroversion of the uterus is not so serious a condition as to require an elaborate surgical procedure for its relief I believe we agreed, too, upon the point that it is only in certain selected cases that we advise patients who suffer in this way to undergo operation As to the use of pessaries, my experience is that when a pessary is properly applied promptly after confinement, while involution is going on, the ligaments recover themselves sufficiently to retain the uterus in place But in chronic cases of retroversion and retroflexion pessaries only afford temporary relief Shortly after removing the pessary the condition is reproduced That has been my experience, as well as the experience of men of wide observation If we carefully look into the literature of the subject we will find that it is the experience of men who have kept watch of their cases most carefully, that only about 5 per cent of them that submit to pessaries are cured

We all agree that in these cases the indications for operation are to be found in diseases of the appendages Granting that is so, to reach the appendages we must open into the pelvic cavity, and the question resolves itself into the abdominal or vaginal route of entrance, and that is a question, I believe, that is going to be fought out in the next few years, and I believe the consensus of opinion to be in favor of the vaginal route My own opinion at the present time is, and my own conduct in these cases, is never to do a laparotomy if I can avoid it If I can in any way relieve a patient by vaginal incision instead of a laparotomy I always do it I believe this is going to be the practice of the future With regard to the length of time it is necessary to retain the uterus in an anteverted position in order to recover itself, and why it recovers itself I believe that if we can retain the uterus in an anteverted position for a certain length of time by something that does not impinge upon the utero sacral ligaments as a pessary does, we allow the utero sacral ligaments to recover themselves, to regain tonicity, the muscular tissue contracts, and as the utero sacral ligaments recover themselves the uterus is retained permanently in place The slight adhesions to the peritoneal membrane do not take the weight off the uterus they do not overcome intra abdominal pressure but simply direct the axis of the uterus, and we have done that in its proper channel, as indicated upon the board We have intra abdominal pressure carrying intra abdominal pressure forward

In regard to the priority of the operation, I do not claim priority for this procedure Wertheim of Germany has suggested it and practiced it, but before he published his paper, and before Dr Byford published his paper, grounded on the same idea, I did my first operation, and while Wertheim has priority for publication in Germany, and Byford priority for publication in this country, about which I do not care, I am certainly entitled to priority for having done the operation in this country before it was published It is my wish to bring this operation before the profession more pronouncedly than it has been done heretofore, with the hope of inducing some of you to adopt it I shall do the operation tomorrow morning at 7 30 at the County Hospital in this city I do not know how serious the operation may be, but it is a case which has been saved for a few days with the idea of doing an Alexander operation I shall be glad to demonstrate to you the facility, ease or difficulty with which the operation can be done I do not claim it is a simple operation It is one that takes time and patience, but the results of the operation through the vagina are so satisfactory that I can highly recommend this procedure

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Police Reports —The recent Latin American Scientific Congress at Buenos Ayres passed a resolution urging the daily press to refrain from publishing police reports as " there is overwhelming evidence to show that they are direct incentives to ever-widening circles of suicide and crime "

DESCENSUS AND SUSPENSION OF OVARIES

Presented to the Section on Obstetrics and Diseases of Women at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo , June 7 10 1898

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The medical profession has during the last two decades been more especially interested in the *exciting causes* of disease, the infections, and the ravages of these microbic invasions The transcending value of the conquests in this direction amply explained and justified this tendency But we are finding out that the infections, after all, are generally playing only a part, and, in some cases, a small part, in the aggregate causation of many diseases We recall the tenets of our fathers who spoke of *predisposing causes* and find that these are just as prevalent in our day Within the female pelvis and abdomen these causes are created mostly by displacements of the internal generative organs, with the consequent embarrassment of their circulation and impaired trophic conditions As pertaining to the uterus, this fact has been recognized for a long time by the majority of gynecologists and general practitioners, and it explains the modern operative zeal for the cure of uterine displacements that is noble in its purpose, but very unfortunate in the choice of some unnatural methods (vagino and ventrofixation or suspension) But, that descensus (badly called prolapse) of ovaries is a positive and potent pathologic factor, that it constitutes a large part of the aggregated evils in cases of retroversion of the uterus, that it justly demands permanent correction by suspension of each ovary so affected approximately in its normal position in conjunction with every surgical invasion of the pelvis that makes it possible and that, in the presence of such displaced ovaries, entrances to the pelvis for other causes should be so chosen as to make it possible to discharge this duty toward the adnexæ also—these are facts that need to be insisted upon and reiterated, not merely for general practitioners, but also for the majority of gynecologists

The normal location of the ovary in the living woman was ascertained by Bernhardt S Schulze,[1] the father of bimanual palpation, the one only searchlight in ordinary gynecologic diagnosis, and the clinical views of this ideal gynecologist were subsequently substantially confirmed by the anatomists Hasse,[2] Kölliker,[3] His,[4] Waldeyer[5] and Vallin[6] During more recent years this topic has been invested with more practical interest than ever before, and it has been the subject of extended anatomic investigation, more especially by Aug Martin and Dr Hammerschlag,[8] a student of Waldeyer Minor differences of opinion still exist between the opinions of some investigators as to the exact location of the ovary, but they relate only to unimportant features, as, for instance, does the ovary lie more upon the anterior or the posterior part of the lateral wall of the true pelvis? Does it lie in a fossa, either specially designed for it, or resulting from indentation? But they agree in all important points—that the ovary lies against the lateral wall of the true pelvis, a little beneath its brim, and is sheltered by the tube and its mesentery (ala vespertilionis) arching over it It rests approximately in the obturator fossa (Waldeyer), being suspended against the lateral wall of the pelvis, with its long diameter parallel to that of the body in erect posture, by means of the suspensory (spermatic) ligament attached to its upper pole, the ligamentum ovarii proprium connecting its lower pole with the corresponding cornu of the uterus, and by its hilum a sesile insertion of its straighter edge into a projecting niche upon the outer part of the upper surface of the broad ligament. Its free border, which is thicker and more rounded, is directed in an inward and posterior direction. While we are compelled here to omit extended details of anatomy, we note, however, two very important practical facts, 1, that the ovary is suspended within the true pelvis, nearly as high on either side, and nearly as far away from its median line as possible, and 2, that it will be acted upon by intra abdominal pressure chiefly in a centrifugal direction, tending to support rather than to dislocate it.

Nature of descensus.—There are two degrees or stages of descensus ovariorum. In the first degree the ovary is arrested in its descent by the sacro uterine fold or ligament of the same side, and lies against the side of the supra vaginal portion of the cervix and body of the uterus, in what Waldeyer calls the fovia retro ovarica, and what Coe[9] and others call the retro-ovarian shelf. In this location it is readily felt by the vaginal finger in the posterior fornix of the vagina in bimanual palpation. In the second degree the ovary has passed over the sacro-uterine fold and then descends to the extreme bottom of Douglas' cul-de sac, where the finger in simple vaginal palpation meets it at once, almost before coming in contact with the cervix. While both ovaries are not infrequently decended to the first degree, particularly when associated with an old and extreme reversion of the uterus, it is rare that both of them lie together in the bottom of the cul de sac. Probably on account of the sigmoid flexure, the left ovary is the one which descends by far the most frequently in both stages, and it is usually the one found in extreme descensus (or prolapse). In 77 cases of ovarian descensus Munde[10] found the left one alone displaced 46 times, the right 19 times, and both together 12 times.

Causes.—Aside from various upward, inward or backward displacements which the ovary experiences from neoplasms arising from the uterus or the broad ligament, it undergoes a downward displacement—which is here alone considered—from three different classes of causes.

1 Those which occasion an abnormal or disproportionate increase in its weight, as *a*, inflammatory processes due to direct local infection or to systemic infectious diseases, especially typhoid and scarlet fever, variola and influenza, *b*, multiple cystic degeneration of Graafian follicles and corpora lutea.

2 Relaxation of the ligamentary supports of the ovary, *a*, by enfeebling or wasting diseases (occasioned partly, perhaps, by the associated loss of fat from the tissues), *b*, subinvolution during the puerperal state, after they have undergone a physiologic and somewhat proportional elongation during gestation, *c*, elongation of its ligaments, particularly of the lateral or upper suspensory ligament, by vicious traction made upon them during conservative surgical work upon the tube or ovary through an opening into the peritoneal cavity, that does not admit of sufficient access to the lateral wall of the pelvis. This is the case sometimes when a very small median ventral incision is made in corpulent women and it is always so in any form of vaginal celiotomy (Sanger),[11] which is an eligible operation for extirpation of adnexæ, but not for conservative work upon them, because their displacement—which in many cases led to their diseased condition—is not remedied, but aggravated by it.

3 Finally and chiefly, retroversion and retroversioflexion of the uterus are responsible for downward and inward displacement of ovaries, more than all other causes put together. The statement of H. T. Hanks[12] that 33 per cent of all cases of such uterine displacement are accompanied by a descensus of one or both ovaries to at least the first degree, is a very moderate one. And the fact that they are not so displaced already in every case of retrodeviation of the long uterine axis does not argue for the innocence of the latter, because descensus of ovaries associated with a normally anteverted uterus occurs in only about 2 per cent of cases that are not influenced by pelvic neoplasms or tubal swellings of any kind. It could not be otherwise, as the anatomy of the parts indicates. The utero ovarian ligament (lig. ovar. proprium) is a firm, round, comparatively unyielding, fibro muscular cord (Luschka)[13] enveloped by peritoneum and only 2.6 cm long. The other supports of the ovary, the hilum and the upper suspensory ligament, are little more than duplicatures of peritoneum containing areolar connective tissue, but practically no fibrous or muscular elements, and are therefore very yielding in character. They allow the ovary to ascend in the abdomen, with the fundus uteri during gestation, and to follow it at close range in all its voluntary or forced excursions in the pelvis.

Harmful factors incident to descensus.—These are, first partial venous stasis, and second, mechanical traumata.

1 As the ovary descends its venous current is obstructed by traction and torsion exercised upon its hilum, for the displacement occurs not merely by a sliding movement, but by a tipping over or rolling inward and downward (Sanger).

2 *Traumata from the uterus and rectum.* Although intra abdominal pressure is everywhere equal and therefore affects all intra-peritoneal bodies from all sides alike, nevertheless, during coughing, sneezing, vomiting, and other straining efforts, as at defecation, there is a marked temporary and physiologic recession of abdominal viscera into the pelvis, that occurs by virtue of proportionally greater power vested notably in the diaphragm and other muscles in the upper part of the abdominal parietes. The consequent reduction in lumen of the abdominal cavity and temporary downard recession of its viscera is the domineering feature of intra-abdominal pressure in the pelvis. It is the sovereign factor in emptying the rectum, it is the greatest force exercised in the second stage of labor, it sustains the uterus in normal anteversion or holds it in constant retroversion acccording as it is guided forward sufficiently or not by its ligaments, and woe to the sensitive feminine testicle when it departs from its sheltered nook upon the side of the pelvis and approaches the median line of the pelvic canal where intra-abdominal pressure in this manner will be brought to bear upon it, through the medium of the rectum posteriorly, and the uterus anteriorly. The traumata thus inflicted upon the descended ovary are intensified when the body of the uterus lies retroverted, which is the case in probably 95 per cent of

all cases of descensus ovariorum In complete descensus at the bottom of the posterior cul-de-sac, the ovary lies as in a vise that acts irregularly, but very frequently Every forcible exercise of intra-abdominal pressure crowds the (usually retroverted) uterus down upon it from above Every filling of the sigmoid and passage by the rectum brings contusions from behind or below, and normal coitus is scarcely possible without bruising the usually hyperemic, edematous or inflamed ovary and causing much pain When the ovary has descended only to the first degree, and lies backward and to the side of the uterus in the sulcus created by the sacro uterine ligament or fold, it does not experience the traumata mentioned so directly and invariably, but like a floating body in the knee-joint, it may be caught at any time and is compressed frequently and violently enough (Goodell)[14] to carry it beyond the domain of conservative treatment, unless it be restored to normal position permanently—with resection when necessary—before a number of years elapse

The pathologic changes that occur in such ovaries in consequence of the constant venous hyperemia and innumerable traumata are 1, hematomata in Graafian follicles and corpora lutea, 2, edema, 3, connective tissue hyperplasia, which is well known to result from constant embarrassment of the venous current, in other organs of the body, 4, chronic oophoritis, leading to multiple cystic follicular degeneration, usually in parts of an ovary, and cirrhotic conditions in other parts, 5, even perioöphoritis and eventually peritoneal fixation may occur without infection, according to Sanger[15]

It is often impossible but likewise non essential, to determine whether descensus of an ovary, in a given case, is the cause or the result of an inflammation or degeneration of the organ For, while it may be the ntire source of disorder in the former case, in the tter it imposes insurmountable barriers to all natural orces in their efforts to establish a restitutio ad integrum

The indication to permanently reduce such dislocation of ovaries is therefore general, and it should be done by non surgical means when possible, and with surgical measures when necessary, especially when resection of them is also required That ovaries so displaced, diseased, and distressing to their bearers, can by such treatment, be restored to good or relative health anatomically and functionally and, in the great majority of cases, do not require extirpation, my experience during the past five years has abundantly proven in several hundred cases Naturally the prospect or advisability of saving these organs becomes constantly less the longer the vices incident to the displacement have acted upon them and have induced greater anatomic changes They are also much less in those comparatively rare cases where their descensus occurred in connection with a normally anteverted uterus

So-called medical treatment for this disorder is really effective for a few cases in that category only in which the descensus (prolapse) of the ovary is associated with a retroversion of the uterus, namely, in recent cases of this kind, following within a month or two after parturition, in which subinvolution is a prominent factor If involution of the uterus and of the uterine and ovarian ligaments be promoted in these cases by an early restoration and retention of the retroverted uterus and descended ovaries in normal position by a properly fitting pessary, and if this be supplemented possibly with a vagino-abdominal faradic current of not more than sixty interruptions to the minute, or by massage of the uterus in anteversion, and by tonic medical treatment, then a cure of the displacement of both uterus and ovaries is here sometimes attained In non-puerperal cases, however, usually only temporary relief is obtained by these means In cases that are associated with a retroverted uterus that can not be brought into thorough anteversion by bimanual manipulation preferably—owing to peritoneal adhesions or infiltration in its supports—so that this invariable and absolute preliminary requirement for the use of any pessary can not be fulfilled, all local medical treatment resolves itself, among other minor agents, into the abstraction of water from the parts by from one to two ounces of glycerin (with bichlorid of mercury, 1 to 4000), applied by means of tampons of elastic (non-absorbent) sterilized cotton or wool These are best applied when the patient is in the genu-pectoral position, and the cervix has been drawn or crowded into the sacral hollow They may be left in forty eight to sixty hours, and should be renewed in a day or two If no septic elements linger in the adnexæ, the tenderness may hereby be so much reduced that bimanual massage may liberate the organs and right their position so that a pessary becomes a possibility, but also a life-long necessity But the only really effective treatment for descended (or prolapsed) ovaries, with given exceptions, is essentially of a surgical nature And, while this subject eminently deserves the careful attention of all general practitioners and medical specialists, because it furnishes an anatomic reason for many a persistent dyspepsia, vaso-motor disturbance or neuralgia, still I would address myself chiefly to those who have occasion and facilities for working in the pelvic peritoneal cavity, I would call their attention to the important duty, namely, in every instance before closing this cavity, to see to it that the uterus and every ovary that is allowed to remain, is also given the most favorable opportunity to remain healthy, by securing each organ as nearly as possible in its normal position or environments by dealing with natural structures in a manner that does not disarrange the normal anatomy or disturb the physiology of these or other adjacent organs Furthermore, I would remind them of the fact that with surgical methods that are designed to rectify displacements of the uterus alone merely, we are discharging but little more than half of our duty in many cases, that a nearly equal obligation frequently obtains with reference to the adnexæ, to relieve them of diseased portions (resection), or of incipient disordered conditions (salpingostomy) and to secure them in a normal location Certainly the restoration of the displaced uterus is a most potent and unavoidable means for the replacement and retention of descended ovaries, but it is not the only or all sufficient means in the majority of cases But a choice of a surgical method for the most frequently associated retro deviation of the fundus uteri is necessary for the relief of a descended ovary Vagino fixation, ventrofixation and ventrosuspension being intrinsically very unnatural and unsurgical procedures, and giving rise to disorders in gestation and obstructions in labor on the one hand, and intestinal obstruction on the other, are not eligible as normal procedures in women who retain a capacity for conception Nor are they adapted to serve harmoniously with other surgical acts that are demanded by descensus of adnexæ

The most nearly ideal structures to deal with to meet the combined requirements of a retroverted uterus and descended ovaries, with certain exceptions, are the round ligaments of the uterus These ligaments may be dealt with by three different routes 1 *By vaginal section*, by which they may be shortened intra-abdominally or may be drawn out and fastened to the vaginal wound This route is, however, only suitable in cases where no conservation work upon the ovaries or tubes is needed, so that they do not need to be drawn into the vaginal wound, away from their more lateral location, and then dropped into an abnormal situation 2 *Ventral celiotomy* This is the proper route to deal with descended ovaries, with or without an associated retrodeviation of the fundus uteri, in all cases that are complicated, not merely by adhesions, but probably also by lingering actively septic elements After removing all depots of the latter, and thoroughly liberating all remaining parts, the uterus should be secured in normal anteversion when necessary by intra-abdominal shortening of the round ligaments, every remaining dislocated ovary should be suspended in the following manner A full-curved cambric needle armed with fine silk, suitable for intestinal work, is passed through the web that connects the abdominal ostium of the tube with the ovary—called the ovarian fimbria—about midway between the two, and so as to grasp from one-half to one cm of its free edge The needle is next made to grasp a similar amount of the inner free border of the spermatic or proper suspensory ligament of the ovary near the ilio pectineal line Usually two stitches, about a cm apart, are so placed and tied In passing the needle through the spermatic ligament, it is usually well to draw out its free border with a forceps so as to avoid puncturing veins that are very prevalent in it Thus the ovary and infundibulum of the tube are both suspended mediately in approximately normal relation to each other and without direct fixation of either, leaving to each a range of mobility 3 By way of the *inguinal canals* and *dilated internal inguinal rings* This is the most nearly ideal route by which to shorten the round ligaments of the uterus, and gives the least objectionable and most enduring results in permanently correcting the displacements for which it is intended, if properly performed It is therefore desirable to treat as many cases by this modified and improved method of Alexander as possible, and, indeed, it is very serviceable, not merely for uncomplicated freely movable retro-displacements of the fundus uteri and descended adnexæ, but also for that large class of such displacements in which the formerly active septic or infectious factors have died out, but have left behind an array of adhesions about these organs and various removable deformations and degenerated portions of adnexæ This very important work can be done by this route efficiently and safely, both as to primary and sequent developments, by cutting only skin, fat, and sometimes peritoneum and separating all other tissues about the inguinal canal bluntly, by stretching the internal inguinal ring (which in every case must be opened to admit of a proper shortening of almost every round ligament) enough to admit an index finger, and by introducing this finger, and if necessary the next one also through this opening, freeing the uterus and adnexæ of all adhesions or fixations and bringing the tube and ovary up into and out of the wound where salpingostomy, destruction of cystic follicles or resection of the ovary, and suspension of it, can be done singly or collectively as required, or the tube and ovary may be taken out if worthless The internal inguinal ring is situated on a line nearly anterior to the lateral and upper suspensory ligament of these organs Therefore, the farther or the more readily the upper pole of the ovary is drawn out the greater is the relaxation of its upper suspensory ligament, and the clearer is the indication as well as the possibility of shortening it In this operation this is done by passing fine silk sutures around the ovarian fimbria, as above stated, and uniting this to the inner edge of the spermatic ligament well drawn out, at a point as low down in the wound as can be reached by depressing the surrounding abdominal wall

This not very easy, but very innocent, and extremely benign work on the patients I have gradually developed since Sept 18, 1893, when for the first time I failed to find a round ligament in performing an Alexander operation upon a mentally deranged patient who would not admit of careful previous examination Instead of giving it up, which I have never done, I opened up the wound into the abdomen and traced the round ligament from the uterus outward Incidentally, I discovered a menacing tube and ovary and removed them, obtaining a good recovery of the patient mentally and physically During the last seventeen months I have performed this extended Alexander operation thirty-six times, eleven times the simple operation was done with no intraperitoneal work upon the adnexæ aside from exploring them in each case on one or both sides with a finger introduced through the ring, and suspending one ovary in a few of the cases, thirteen times with resection of one or both ovaries, making a suspension of the latter in about half the number of ovaries dealt with, and restoring the canal of the tube in a smaller number In twelve, or one third of the cases, I removed the appendages of one side, and in some of these resected and suspended those of the opposite side In an experience with about one hundred and forty cases, the Alexander operation, variously modified, has not only not been responsible for any death, nor followed by hernia or any other evil sequel, but the general average of morbidity during convalescence is much lower than of abdominal sections proper in which only the same amount of work has been done upon the same organs, but much more incidental exposure and manipulation of intestines especially was necessary The general average of good health during subsequent years in cases of such displacements that were surgically treated upon this plan either intra abdominally or by way of the inguinal canals, so that not the uterus only but the ovaries also were secured in normal position is much better than of similar cases in which the uterus *alone* was formerly attended to by the same and other less eligible methods

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FURTHER EXPERIENCES IN THE MANAGEMENT OF UTERINE DISPLACEMENTS

Presented to the Section of Obstetrics and Diseases of Women at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

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I have been prompted to present this subject on account of the misapprehension which, I believe, has prevailed respecting the character of an abnormal position of the uterus, and the method of treatment that should be adopted for the correction in certain cases

It has been a frequent occurrence to meet with cases having a marked backward displacement where a pessary had been inserted and worn for a considerable period without an attempt being made to overcome the adhesions and to restore the organ to a position as nearly normal as possible

For convenience in treatment, uterine displacement may properly be divided into two classes, namely anterior and posterior rotation

I have often found the former division to yield quite readily to dilatation and to the maintaining of the patency of the cervical canal, this can be effected by the employment of a glass drainage tube while the patient is kept in a recumbent position In those cases in which there is much congestion or inflammation of the uterine canal or of the tissues connected with the appendages, douches or other local applications should be used previous to dilatation and drainage

Of the two results that follow anterior displacement, I have noticed that sterility has been the more common condition or has not been as easy to control as has dysmenorrhea

Within the past year I have observed an unusual number of cases of sterility dependent on a preternatural closure of the uterine cervical canal In one case my records show that the patient had some eight years before given birth to a child the anteflexion of the corpus uteri was of the third stage, or of an angle about forty degrees In endeavoring to effect dilatation I found that there existed much hyperplasia of the cervix, which was evidently the result of an old endometritis An innocent looking exudation taken from the cervix, when placed under the microscope, revealed the presence of gonococci, the existence of which must have been of long standing and must have contributed to the sterility and to the changes that had taken place in the endometrium Dilatation of the canal, incision of the interior of its cervical portion, curettement, drainage and cauterization with a 60 per cent solution of chlorid of zinc finally overcame the dysmenorrhea and relieved the essential symptoms

In some instances I have found that anteflexion resulted undoubtedly from congenital causes In very marked or aggravated cases I have observed vesical symptoms to arise The urine may contain a muco purulent sediment After dilatation and other local measures have been tried, a properly fitted Hodge pessary, introduced so as to lift the uterine fundus from the bladder, afforded satisfactory relief

As regards anteversion, I have found that condition often associated with subinvolution and therefore has been the result of pregnancy and of parturition, laceration of the cervix, and relaxation or inflammation of the uterine ligaments Dilatation, curettement, and the direct application of iodin and of other alterative agents have proved excellent preliminary measures of treatment The laceration of the cervix and of the perineum and also of other parts should in due time be attended to

In two cases of anteflexion of the third degree, pregnancy took place before opportunity for a systematic plan of treatment could be carried out In one of the cases vomiting of pregnancy occurring after the tenth week became alarming, this, however, was brought under control by rest and by tamponading the vagina so as to elevate the uterus from the rectal, sacral, and vesical tissues Such vomiting can often be relieved by the milder means used for replacement of the uterus If, however, there are firm adhesions, as there were in a case to which I was called some months since little can be safely attempted in this respect until after the term of pregnancy has been completed

It is sometimes said that the stimulating effect of pregnancy tends to improve the development of the uterus and thus to overcome the anteflexion In one of my patients, notwithstanding pregnancy went twice to full term, the anteflexion recurred soon after each parturient process had taken place

As before remarked, I have relied in the treatment of anteflexion much upon resort to dilatation, either by the gradual or by the rapid method, as the condition of the case would seem to justify In regard to the time when rapid or more forcible dilatation should be attempted, much will depend upon the character of the case If there is evidence of much old hyperplasia, with a preternaturally small cervical canal, dilatation should be had recourse to as soon after menstruation as it will be deemed expedient to undertake If, however, the cervix is soft and imperfect in its size and shape and there is a tendency to menorrhagia or metrorrhagia, the operation should not be performed for some days after the flow has ceased

In dilating the uterus I have noticed that much care should be taken not to exercise too much force in the beginning, the condition of the tissues somewhat above the internal os should not be overlooked In cases in which there is considerable hyperplasia or induration of cervical tissue, incision of the parts within the canal will be most helpful, the sudden forcible stretching of the tissues without incision is liable to be followed with delay in recovery or with other untoward results In cases in which there is a complication of salpingitis, ovaritis, or other inflammatory processes, rest and preliminary treatment should be tried before the more radical measures are employed

In all cases, after dilatation has been effected, the patient should be kept for a considerable period in the horizontal posture If sterility or dysmenorrhea continue, dilatation, curettement and intra uterine applications should be repeated at proper intervals I have found, however, that when treatment was seasonably undertaken, favorable results in a large percentage of cases were early achieved

In the management of retroflexion we have been accustomed to speak of the corpus of the uterus as being bent or turned backward from its original position. In this connection it might be proper to say that the cervix of the uterus is in its normal position when its axis is nearly at right angles to the axis of the vagina and the corpus inclined forward toward the abdominal wall. The degree of retroflexion may then be determined by finding the measurement of the angle that is formed by the backward displacement of the body from the internal os. We may have a retroflexion that embraces an angle varying from the dimensions of half a circle to those that are included in less than a quarter of an arc. As regards the treatment of such cases many points have to be considered. Of course, replacement of the organ must first be accomplished and its reduction must be maintained. I will not discuss the question of repair of the lacerated cervix or of an injured perineum, for we all now recognize that such cases should receive proper attention, as well as that measures should be instituted to overcome the condition of subinvolution. The cases that of late have given the most trouble have been those in which the organ was firmly bound down by adhesions, or after the adhesions have been overcome, the ligaments and other parts have been found so weakened and relaxed as to fail to act as guys in sustaining the organ in its restored position.

As we come to appreciate more and more the influence of intra-abdominal pressure in the maintaining of the uterus in its normal position, we shall perceive more clearly the reason why we have succeeded in some cases by a resort to a special method of procedure, while in other cases such operations have proved to be almost entirely useless.

Last winter there came under my care a case in which Alexander's operation had been tried some three months previously without any beneficial results being apparent. I found, on further examination, that the retroflexion was of nearly the third degree. Some dysmenorrhea was complained of, besides the effects of pelvic pressure and other annoying symptoms, the result of reflex irritation. The vulvo vaginal introitus was relaxed and patulous. The only operation that I could recommend was Hegar's method of posterior colporrhaphy. The posterior vaginal wall was narrowed so as to overcome the patency of the vulval opening, and thus to prevent the ready ingress of air. The uterus was then kept in place by a properly fitted Hodge pessary, though the round ligaments were much relaxed, and no attempt was made to reshorten them.

I believe that Alexander's operation is the most useful in those cases in which the vulvo-vaginal wall is so intact as to be sufficient to maintain the intra-abdominal pressure. There can be no doubt that had the perineal and vaginal tissue been repaired at the same time that the operation was undertaken for shortening the ligamenta rotunda, the results, in all respects, would have been typical of the benefits that could have been achieved by necessary operative interference.

Those cases in which the uterus is displaced backward and is firmly adherent, are frequently the most troublesome to manage. Manual and instrumental interference may sometimes be helpful in effecting the proper reduction, so, also, will repeated tamponading with iodoform gauze or with prepared lamb's wool but these procedures have many times proved to be tedious measures of treatment. In such cases, Alexander's operation will have to be deferred, this operation would be especially contra-indicated if the adnexa were prolapsed and adherent also. The course then to be pursued will depend on the amount of suffering.

If the severity of the symptoms cannot be relieved by resort to milder means, or by the recourse to the extra-peritoneal method, ventrofixation or ventrosuspension may, of course, be the next expedient. Before resorting to this measure of proceeding it is highly necessary to be certain, as it is in Alexander's operation that the perineum and vulvo-vaginal tissues are intact, and that there exists in those parts no patency that would materially overcome the equipoise of the intra-abdominal pressure.

On making an abdominal incision other factors as contributing causes of the retro displacement may be discovered, these will have to be dealt with as may, in each individual case, seem proper. Ventrofixation as a routine method of treatment for correcting retro-displacement of the uterus can, according to the present knowledge of the results of abdominal surgery, be scarcely approved. The operation in certain cases has its peculiar benefits, in others it has its exceeding limitations. Ventrofixation or ventrosuspension, I have found, is an admirable surgical expedient in those cases in which one or both of the appendages or portions of the broad ligament have been removed through an abdominal incision, for overcoming retro-displacement in married women, I believe that it is best that the operation should, if possible, be deferred until the approach of the menopause. If conditions admit of a choice, Alexander's operation for shortening the round ligaments in properly selected cases is no doubt the less dangerous to the patient's life and the less likely to interfere with the normal evolution of pregnancy, though I have seen a few cases in which utero gestation, taking place at an early date after the operation, terminated about the sixth month in premature parturition.

DISCUSSION ON PAPERS OF DRS. GOLDSPOHN AND CLARKE.

DR. JOSEPH EASTMAN, Indianapolis—I desire to thank Dr. Goldspohn for his excellent paper. I endorse every word I heard, although I did not enter the room until the paper had been well begun and the foundation had been laid. The paper certainly shows that the Doctor is studying along anatomic lines in a conservative way, and with the absolute view of effecting cures, and not for the sake of making new experiments or developing new modes of operating.

DR. HOWARD A. KELLY, Baltimore—Some of you may recall a paper in the *British Gyneological Journal* in 1889 with reference to stitching up the ovary with its attendant prolapse. I myself have never felt perfectly clear as to the pathologic significance of those ovaries that were felt with unusual distinctness in Douglas' pouch, and I have never felt warranted in opening the abdomen for the sake of stitching up such ovaries. When I have opened the abdomen for other causes these ovaries have never appeared to be diseased, they may have had small cysts in them. I shall watch with interest the effects of operations upon descended prolapsed, more or less tender ovaries. In the course of abdominal operations, where I have removed the tubes, and the ovaries have tended to drop back, I have pinned them to the cornu of the uterus in a number of instances. It is interesting to note the varieties or differences we find in the course of operation in the utero ovarian ligaments. Of course, the length of the ligament allows the ovary to drop back. I have seen a case within the last two weeks in which the ligament was over two inches in length. That was in association with a tumor, which was large. When the ligament was pulled out I never saw one as long before. I have seen them short and thick. I wish to say in this connection, that a short time before I came here I saw a case where there was absolutely no utero ovarian ligament. The appearance was curious. In opening the abdomen and exposing the uterus, saying this *à posteriori*, the ovary was plastered right on to the uterus on both sides for about two thirds of its surface, the scar tissue looking like skin that had been in water for some time, radiating several centimeters around This was the only case in which there was absence of the utero ovarian ligament

Dr **William H Humiston**, Cleveland—In reference to cases of prolapsed ovaries, I find it is a great question for me to decide as to the necessity for an operation I do not feel clear in deciding to operate until I have gone through a course of treatment in these cases It is rare for me to find an ovary prolapsed unless we have descensus or a retroposition of the uterus In those cases I find that the history gives an indication as to what the result may be from ordinary treatment If the case has existed for a long time, usually it has failed to be permanently benefited by putting the uterus in its proper position and condition But I feel like trying the conservative method always in doubtful cases before resorting to surgical procedures I find in a great many of these cases, if the symptoms have been only a year in duration, that they do get well by placing the uterus in its proper position and supporting it there with rest in bed, hot water douches, by glycerin pads, and with medicated boro glycerid, or ichthyol glycerin solution I have never done the operation of suspending the ovaries, for after failure of the conservative method of treatment, the symptoms not being relieved to any extent, upon opening the abdomen and inspecting the appendages I find them in a pathologic condition, and then removal of them is the only thing to give permanent relief, and in those cases I have had most pronounced success Many cases that have come to me with symptoms of recent date, say within a year, have been permanently cured by the ordinary treatment with pessary, after six or seven or ten weeks of support by pessary The uterus remains in its position and we have no further trouble Usually pregnancy takes place and they go on to full term without any trouble Where the appendages are not diseased, merely congested, and the ovaries prolapsed, perhaps the conservative treatment has been usually sufficient in my experience

Dr **E Gustav Zinke**, Cincinnati—I can not believe that an otherwise healthy ovary or ovaries that are prolapsed, even though they be lying behind the uterus or in front of it, will give rise to any serious symptoms—certainly any symptoms that would in my opinion justify operative interference This is the view which I take of this procedure I have yet to see a single case of prolapse of the ovaries without adhesions that has given rise to such symptoms as will warrant operative procedures, except perhaps such as a patient may be put in the genu-pectoral position several times a day for as long as she may stand it in connection with the use of tampons, keeping the organs in their place as much as possible, but when I have ound relief from measures of this kind, I always feel sure that whatever symptoms there were present they were not the result of adhesions, and in no case were they so severe as to justify an abdominal section for the purpose of stitching the ovary in its proper place

Dr **J H W Chestnut**, Philadelphia—My experience in these cases coincides very clearly with that expressed by Dr Humiston of Ohio, and Dr Zinke The numerous cases I have seen have been so comparatively insignificant in their ulterior influences that I have not yet been called upon to operate for removal of the ovaries except where there were evidences of intrinsic disease The frequent placing of the patient in the knee breast position, the retention of the ovaries in their position by tampons medicated by glycerin and ichthyol and rest in bed with the hot douche will give relief Where there have been adhesions I have felt compelled to remove the organ I have no doubt, however, that there are cases in which this procedure will be of value

Dr **Miles F Porter** of Fort Wayne, Ind —There are certain cases of prolapse of the ovary in which we know the shortest and best method of treatment is some method of fixation or their removal With the Goldspohn method I have had no experience whatever, but I have had some happy results from abdominal fixation of the ovaries, in cases where apparently there was absolutely nothing wrong save that the ovary was out of position—*sometimes out of position* one day and in position the next A few days ago a case of this kind presented itself which had been treated by the usual method without result, and upon leaving she remarked to me that the first movement of the bowels without pain and without distress, she had *for a period of* eighteen months, she had had within three months after the ovary was put in position, and retained there through an incision in the median line

Dr **Charles I Bonfield**, Cincinnati—It seems to me that the experience of Dr Kelly and of Dr Zinke that these cases do not cause some trouble must not be the experience of the entire profession The cases that are attended with retroversion of the uterus, and the cases that are relieved when the retroversion is relieved are amenable to the office treatment so graphically described by Dr Humiston of Cleveland But when the ligaments of the ovary are so stretched that replacement of the uterus does not also replace the ovary, then it has been my experience that local treatment is very hard to carry out and it is almost impossible to make it effective A great many of the gentleman have said that the ovaries, if not diseased, need not be disturbed, but it has been my experience, after watching these cases, that if I am not able to relieve them in any way, sooner or later the ovary itself becomes diseased, the malposition of it interferes with its nutrition, and sooner or later we have a diseased ovary which requires its removal The gentleman who spoke a minute ago, from Iowa (Dr Fairchild), voiced my sentiments when he said that certain women could not afford to be treated months for this condition, such as school teachers, music teachers and clerks in stores They cannot afford to pay money for their care nor can they afford to rest long enough to get temporary relief In those cases some surgical measures are indicated

Dr **E Gustav Zinke**, Cincinnati—It is possible I have placed myself in a wrong position because I was not here when the paper was read I may not have been correctly understood with reference to what I had said before What I meant to say was that when we have a perfectly healthy ovary, in other words, no diseased condition in the pelvic cavity, only prolapse of the ovary, that the symptoms arising therefrom can not be sufficiently severe to warrant operative interference Furthermore, when I spoke of the genu pectoral position for the relief of the condition, everybody knows that there are no adhesions present The treatment need not be very protracted, and a few applications will probably be sufficient If protracted treatment becomes necessary, it is evidence that adhesions exist, and that other pathologic conditions have arisen for which operative interference will be perfectly justifiable I wish it distinctly understood that I endorse every honest effort I do not know whether Dr Goldspohn does this operation for prolapse of the ovary without any diseased condition present or not I simply make these statements in order to make myself understood I hope if I did not make myself understood then I have done so now

Dr **Joseph Price**, Philadelphia—My experience has been instructive and interesting in this line of work, although I have not resorted to surgical procedures except in the presence of pathologic conditions A prolapsed ovary with fixation commonly has occlusion with retention, and the same holds good with retrodisplacements with fixation It is exceptional to find a fixed uterus without an occlusion with retention of blood, pus or water You have alluded to the importance of surgical interference in this class of cases For simple descensus of either or both ovaries, or the truant ovary of the Germans, we have had a great variety of treatment I do not approve of the office treatment It avails but little If you are going to treat a case successfully you must put the patient at rest, and if the treatment be local and general you will succeed in many cases in giving marked relief by some of the methods recommended The globe trotters and the class of women who do not want to be mothers, or prefer postponing the treatment of their troubles for trivial purposes or other convenience, are the ones that annoy us most If you can convince some of these women that they should become mothers you will, in many cases, cure the truant ovary Before leaving home I examined a patient who has not conceived for eleven or twelve years She is living in the extreme Northwest, she was the victim of artificial methods of preventing conception, and, as a consequence, had marked nervous disturbance bordering upon insanity I found in her case, large, congested uterus and truant ovaries I put her to bed, corrected the displacement of both ovary and uterus, and she returned *eight months* later to *ascertain* the presence or absence of pregnancy I assured her that she was pregnant some four months or more She went away rejoicing We are burdened in the East by a number of cases traveling all over the world They have an unnatural dread of having a baby, and a baby is a thing we love down East above all things

Dr **Clarke** (closing the discussion on his part)—In most cases where we have displacement of the adnexa we have displacement of the uterus, and in my paper I spoke of the importance of intra abdominal pressure, and I believe we should in all cases endeavor to restore that There is a class of cases in which I think my methods of treatment should be of avail, but I have seen some cases in which ventrofixation or ventrosuspension has been undertaken *and carried out* with so little good effect, that I am afraid of it I believe if the Alexander operation is performed in a certain class of cases, and the peritoneum is intact and the subinvolution is overcome, with a little rest in bed, the woman kept in that position, we will get almost a perfect cure If we perform Alexander's operation without restoring the parts to overcome subinvolution and without watching the condition of the ovaries and tubes we will meet with failure The purpose of the round ligaments is to prevent backward displacement, and to fasten the uterus to the abdominal walls or to the peritoneum has, in my experience, been a failure in those cases in which the tubes and ovaries have been removed

Dr Goldspohn (closing the discussion)—I condemn the surgical monstrosities of ventrosuspension, ventrofixation and vaginofixation Direct or immediate fixation of the uterus to the abdominal wall, without an intervening band, is so serious a thing that soon it will be malpractice to perform it in women who may conceive Suspension exposes the patient to the risks of intestinal obstruction If the bands made by these operations were the result of anything else, the operators themselves would open the abdomen to remove them The records show that two thirds of the women subjected to these operations have troubles in gestation or labor, or both The harvest of ileus after ventrosuspension has only begun The round ligaments are merely guy ropes Intra abdominal pressure is the holding force that either supports the normally anteverted uterus or condemns the retrodisplaced uterus to remain permanently in that position The best way to correct these displacements is by means of the round ligaments and through the inguinal canals The cardinal points in the technique of Alexander's operation are that the way into the abdomen is not to be cut, but the tissues are split so that they fall together afterward, that the conservative operations upon the appendages can be done through the dilated wound, and that each layer must also be closed individually At least 95 per cent of the cases of descent of ovaries are associated with retroversion of the uterus, and hence the treatment must be directed to the displacement of both The gynecologist who knows no middle ground between amputating an ovary and doing nothing, stands in the same position as the surgeon who would amputate every diseased leg I never do Alexander's operation without curetting thoroughly and repairing the cervix or perineum, or both, at the same sitting, if at all required My technique of the operation is briefly as follows The pubic spine and Poupart's ligament are the guiding points An incision is made half an inch above the ligament, beginning near the spine, passing down to the aponeurosis of the external oblique The bunch of fat in the external ring is grasped with forceps and a finger is placed in the ring The aponeurosis is then split up without being cut, and is held aside by retractors, the round ligament is traced to the internal ring by tearing the attachment of the deeper muscles to it, when the end of Nuck's canal can be seen This is cut slightly and a pedicle forceps is introduced and the internal ring is stretched so that the index finger can be introduced With this all adhesions to the uterus and to the tube and to the ovary of the same side are severed The ovary and tube, if abnormal, are brought out, inspected and their condition is corrected surgically if possible, or they are removed The round ligament is sutured to the under surface of Poupart's ligament, in the act of closing each layer in the wound separately, and after the principle of Bassini hernia operating

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THE TREATMENT OF AMBULATORY GYNECOLOGIC CASES

Presented to the Section of Obstetrics and Diseases of Women, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June 7-10

BY DENSLOW LEWIS, M D
CHICAGO ILL

Sanger tells us that gynecology is the surgery of the female genitalia His definition is neither exact nor complete, but it is clinically useful As a matter of fact the first thing to be determined in every gynecologic case is the advisability of operation A necessary subdivision of the question is at once apparent There is the consideration of immediate operation at the time of examination, the operation in such cases being trivial There is to be considered the advisability of local and systemic treatment, which is often to a great extent tentative, with the reasonable hope that surgical treatment may ultimately be dispensed with or may become relatively insignificant, at least not especially dangerous, and finally, there is the certainty that operative measures are imperative, perhaps that their immediate adoption is the only known means of relief or of saving life, in which event removal of the patient to a hospital is usually indicated There is, therefore, in the first examination of every gynecologic patient a chance for much difference of opinion, both as regards the indications for operation, the kind and extent of surgical measures to be adopted, as well as the relative value of measures, chiefly medicinal and topical in character, which include no extensive surgical interference

I desire in this connection to refer to the gynecologic cases I have seen at the Chicago Policlinic during the past four years I ask your attention exclusively to those cases, very properly designated as ambulatory, where the women, although often seriously diseased or suffering from a condition which seems to demand surgical treatment, are unable to submit to radical measures which would necessitate sojourn in a hospital or cause them to give up their daily work These patients are chiefly working women, many of them having to support children and at times a husband If not employed in some shop or factory they are obliged to attend to household duties, from which they can not absent themselves without serious interference with the routine of their family life In some instances they are impostors I have known them to come several thousand miles for treatment They have settled down in Chicago with their families and have taken advantage of our dispensary and hospital facilities in the most shamefaced manner Prostitutes are not frequent attendants of our gynecologic dispensary The women, as I have said, are, as a rule, obliged to work for a living They are often poor, but not destitute They are, most of them, trying to do their part in the struggle of life For this reason it is a hardship in several ways for them to remain in the hospital long enough to convalesce from an operation They can not indulge in the "rest cure," or in many instances, purchase proper food They seek relief from their ailments without interference with the routine of their daily life It is gratifying for me to be able to say that often such a course of treatment is practicable and sometimes surprisingly successful Let me briefly detail the methods in use in the different classes of cases I have been called upon to treat

Venereal warts if small are snipped off with scissors under cocain anesthesia Occasionally the base is touched with a drop of carbolic acid If the warts are large and extensive the patient goes to the hospital for a few days, the strip of mucous membrane from which they grow is dissected off and the edges united, very much as in a Whitehead operation for hemorrhoids During pregnancy no operation has been undertaken, nor have the warts, as far as known, in any way interfered with parturition During the puerperium they diminished in size and in some cases they have disappeared Chancroids are touched with strong carbolic acid for its anesthetic effect, followed by a drop of fuming nitric acid applied with a glass rod Powdered boracic acid is applied to suppurating surfaces after the parts have been cleansed with a boracic acid solution and dried with absorbent cotton No case of phagadena occurred Chancres were not often seen They occurred on the fourchette and inner surface of the labia majora They were dusted with boracic acid and pills of proto iodid of mercury were exhibited.

Condylomata have been dusted with powdered boracic acid or stearate or oleate of zinc. A douche often of a 1-4000 solution of bichlorid of mercury, would be given two or three times a day and general cleanliness of the parts would be insisted upon. With these local measures, under a vigorous mixed treatment, the condylomata would disappear or perceptibly diminish in size, and the ulcerative condition of the neighboring parts would improve.

Pruritus, in connection with pathologic conditions would often be relieved by applications of powdered boracic acid and the maintenance of cleanliness. In other cases a saturated solution of sulphite of sodium would be prescribed with great benefit, although in some cases of pregnancy its use would have to be persisted in.

Lacerations of the perineum would often present themselves, but usually cicatrization had taken place and no serious discomfort was occasioned by their presence. In recent cases powdered boracic acid would insure healing without much pus. Where extensive rectocele existed the patient was advised to submit to a Hegar operation in the hospital. In many instances circumstances prevented the acceptance of this advice, and it was found in the great majority of cases, that when the patient, in the course of time, recovered from pelvic pain and other symptoms due to infection of some of the pelvic viscera, the rectocele apparently caused but little inconvenience as long as the bowels acted daily. Cases of somewhat extensive laceration of the anterior vaginal wall would favor the development of a cystocele, but in many cases without appreciable inconvenience. Here also, it was noted that when the symptoms due to infection were relieved the cystocele would persist, but it would cause—at least while the patient was under observation—no decided bladder symptoms.

Many cases were observed of what is commonly called "irritation of the neck of the bladder." The symptoms were undue frequency in urination and a desire to pass a drop more accompanied by more or less pain. Urethral caruncle when observed in connection with these symptoms was promptly removed under cocain anesthesia. In addition to the routine treatment of infection of the pelvic contents, to be later described, it was customary to recommend the copious drinking of water and the exhibition of twenty grains of benzoate of sodium three or four times a day. Only exceptionally would it be necessary to give an anodyne. When pain was severe it would usually be relieved by a suppository of one-half grain of the aqueous extract of opium often combined with one-third grain of the alcoholic extract of belladonna. Once or twice a year there would be a case of chronic urethritis which would disappear under the foregoing treatment and the bi-weekly passage of steel male sounds, gradually increasing in size, as is practiced in the treatment of urethral stricture in the male. Rarely was it necessary to send the patient to the hospital for bladder irrigation, ureteral exploration or some operative procedure.

Infection of the vulvo-vaginal glands, one or both, was often observed. In many instances no special discomfort was occasioned, and in the course of time the infection would subside. In other instances pus had formed so that a free incision was necessary. Several cases were seen that had persisted for years. It was noted that a small incision, amounting to little more than a puncture, had been repeatedly made, which would allow the evacuation of pus, but the abscess would invariably recur. In such cases it was gratifying to observe that an incision which extended throughout the length of the gland would invariably effect a cure within a few days. Some chronic cases where induration was apparent were sent to the hospital and operated on by excision of the glands.

Hemorrhoids were often seen in connection with other diseased conditions. If external, and especially if situated some distance from the verge of the anus, they were incised and the clot turned out. In other cases an ointment of equal parts of ung gallæ and ung zinci benzoat, containing perhaps ten grains of extract of opium to the ounce would reduce the tumors in size and relieve the itching and irritability complained of. Of course means were adopted to secure free bowel movements in each case.

Internal hemorrhoids and anal fissure were treated by moderately stretching the sphincter muscle and applying powdered boracic acid twice a week. Of course here also free catharsis was secured. It was found that these measures were usually sufficient to heal the fissure, reduce the hemorrhoids to an appreciable extent, and to relieve all symptoms due to their presence.

Leucorrhea, as would be expected, was a symptom frequently observed. Indeed, its presence often induced the patient to apply for treatment. She would suffer also from variable pelvic pain, but in many cases the constant discharge was so disagreeable, or its continuance was regarded as such a drain on the system that immediate and permanent relief was urgently demanded. When the discharge was at all profuse or the attack was recent, the gonococcus would be looked for. A drop or two of the pus would be collected on a glass slide, methyl blue or gentian violet used as a staining material and the specimen examined microscopically. If diplococci were found Gram's iodo-iodin solution would serve to differentiate the gonococcus by decolorizing it. Usually it was found where the discharge was profuse, unless a recent infection of the endometrium or a cervical laceration was clearly demonstrable. Vaginitis was rare except in children. This was the rule in nearly all cases of leucorrhea, the delicate character of the mucous membrane apparently offsetting the protection afforded in adults by the pavement epithelium. The treatment of gonorrhea and of the vaginitis of children consisted in the application of a nitrate of silver solution to the mucous membrane of the vulva, the entire surface of the vagina, the portio vaginalis and the exposed portion of the interior of the cervix. In adults this application consisted of a 20 grain to the ounce solution, and was made with a swab of absorbent cotton at intervals of three days. A 1-4000 bichlorid douche used twice a day would also be prescribed. In children the application was necessarily less thorough. It was made in the same manner to the vulva and lower portion of the vagina, but in addition a vaginal injection of the solution, 10 grains to the ounce, would be made by means of an eye syringe.

In most of the cases that presented themselves for treatment there was evidence of infection of a cervical laceration, the endometrium, the lymphatics or veins near the uterus, the interior of the tubes, the ovaries, or the peritoneum adjacent to the fimbriated extremities. These cases constituted the conditions often called "cellulitis," "perimetritis" or "parametritis" By me these terms are no longer used They present to my mind no definite idea of the exact pathologic condition that exists nor are they in any way indicative of etiologic relationship nor suggestive of suitable means of treatment I also abstain from the use of the words "endometritis," "salpingitis" and "ovaritis" These expressions, it must be admitted, indicate very often the true condition that exists but, with our latter day knowledge of bacteriology, we understand that the inflammatory reaction that occurs when infection takes place, is the effect of microbic action and is always the result of a morbid process, which is itself usually of the first importance

I have no wish to be pedantic, at the same time I contend that for many reasons, it is preferable to say infection of the endometrium or tube, as the case may be This defines the exact condition This is a step in the right direction It will not be long before the variety of infection will be stated, with very great value to our knowledge of definite therapeusis The effects of the inflammatory reaction must also be recognized and appreciated Indeed, in many of these cases, the extent of the inflammation is of itself a positive indication for determining the proper course of treatment

Lacerations of the cervix were often noted Sometimes there would be no infection The finger could detect a solution of continuity in the portio vaginalis but no other symptoms, subjective or objective, could be determined In such cases the lacerations were let alone In other cases the infection was the factor of importance The portio vaginalis, torn bilaterally or presenting an irregularly stellate laceration, would be everted or hypertrophied, the red and inflamed surface of the endocervical mucous membrane constituting the condition which used to be called "ulceration of the womb" In all such cases there was found an extension of the infection to the endometrial mucous membrane or beyond Repair of the lacerations or amputation of the cervix, together with a thorough curetting, was usually recommended, but in most instances, sociologic and economic reasons prevented the acceptance of this advice Under these conditions, powdered boracic acid was applied and the routine treatment, soon to be described, was persisted in, usually with satisfactory result

I may as well state frankly that our diagnosis was often imperfect and incomplete in many of the cases where infection, originating in the endometrium, had extended either by continuity of epithelial surface through the tube to the ovary or to the peritoneum or where invasion occurred through veins or lymphatics—often of the placental site—to the parenchyma of the uterus or the surrounding areolar tissue It must be remembered that we encountered stout patients and those in whom there was much muscular rigidity or extreme tenderness The bimanual examination was often facilitated by the assumption of the exaggerated lithotomy position and the use of a vulcella forceps, but these means were not always sufficient to enable us to map out the pelvic contents with any degree of accuracy, and it was rarely practicable for our patients to take an anesthetic

Under these conditions the presence of infection could be noted but the locations infected could not be accurately determined until the patient had become accustomed to our examination or the tenderness had appreciably subsided As a matter of fact, as I often took occasion to say to the practitioners who attend our clinic, the etiologic relationship and the location of the infection are relatively of little consequence in comparison with the importance of knowing its extent, that is, if it has gone on to suppuration The presence of pus in the pelvis is, in my judgment the important point to be determined in the examination of gynecologic cases showing the effects of infection When pus has formed to any great extent its evacuation is usually the proper treatment In our patients, however, it was often impossible to operate and our advice had to be disregarded It is extremely gratifying to be able to say that in the great majority of cases where pus was diagnosed in the tube or the areolar tissue of the broad ligament our treatment would succeed in relieving all pain and all discomfort so that the patient became symptomatically well This experience in time modified our prognosis and had its effect upon our advice When a pyosalpinx was discovered we did not feel it necessary to demand an immediate celiotomy as the only means of saving life When pus was diagnosed in connection with the ovary or broad ligament we insisted that the surest and speediest way to ensure recovery was a vaginal incision and drainage, as Henrotin has so ably pointed out Nevertheless, we soon learned that if circumstances prevented a sojourn in the hospital and operative interference, there was a reasonable probability that in the course of time microbic action would cease, the pus, now no longer septic, would become absorbed or encapsulated, and the patient would be free from pain and discomfort We learned further that our routine treatment was beneficial in all cases of infection of the pelvic organs or the tissues surrounding them As a matter of practice, we submitted all patients of this class to essentially the same treatment We succeeded in all cases except those requiring surgical interference, and in many of these cases, when we advised vaginal or abdominal incision for the evacuation of pus, curetting for the removal of granulations or the retention of membranes following abortion or labor, trachelorrhaphy or some form of colporrhaphy, it was most surprising to notice that the symptoms would gradually subside and the patients would be able to continue their daily occupations without inconvenience

I will now state the details of what I have called our routine treatment I do not claim that it is the best treatment, much less that it is the only treatment for this class of cases In our hands it has been found convenient and many hundreds of poor women can testify as to its success I consider it worthy of mention, although there is nothing new about it, for it must be remembered that the patients who were benefited were working women unable to purchase expensive drugs, food or appliances and forced to continue on in their daily routine of life Our first direction is a 1-4000 bichlorid of mercury douche to be taken as hot as can be borne twice daily, with the patient on her back and the hips up The error is explained of an attempt to take such a douche with the bulb syringe or on the water closet seat The patient lies flat on her back in the bath tub with a rubber water bag under her hips, or, as often happens, if there is no bath tub, she lies on the edge of the bed with her feet separated, each on a chair

The bowels are made to act freely at least once a day For this purpose it is customary to prescribe the fluid extract of cascara sagrada in a routine manner. The drug is given at first in 20 drop doses to be taken three times a day. If the bowels do not move, a compound cathartic pill is given at night and a dose of salts in the morning. Sometimes it is necessary to give at first a saline enema or one of glycerine and water. However this may be, no more than 20 drops of the cascara are given at a dose. In a few days the salts may usually be omitted in the morning and some days later the pill at night is also omitted, to be promptly resumed, however, if on any day the bowels fail to move. It is usually found that, after a week's time, the three daily doses of cascara produce daily evacuations. Our directions now are that the drug be taken regularly in the same dose no matter how frequent the discharges may be, provided they are fecal in character. It is noted that after the cascara has been taken for some little time, colicky pain and diarrheal movements supervene. This is our signal, not for stopping the medicine, but for its exhibition in the same way three times a day in a smaller dose, say 15 drops instead of 20. Another period of regular bowel movement usually follows but, in the course of time there again occur watery movements and abdominal colic. Here again the dose is diminished, the original dose being promptly resumed or the cathartic pill, enema or salts given if required. In a few weeks more the dose can often be still further reduced although taken in the same regular manner, three times a day. Finally, after the dose has been reduced to one drop three times a day, the medicine can be discontinued and the bowels act freely and regularly of their own accord.

The patient is told to assume the knee-chest position twice a day for ten minutes. Twice a week, when she calls at the dispensary, she assumes this position upon the operating table, a large Sims's speculum is introduced and a tampon of absorbent wool, one end soaked in a 10 per cent solution of ichthyol in glycerine is applied by means of a uterine dressing forceps. This tampon remains in situ some twenty-four hours, unless an offensive discharge or undue irritation ensue, and is removed by the patient by means of a string which is tied to one end of the tampon.

This is our routine treatment of infection of the pelvic contents. Powdered boracic acid is dusted on the inflamed cervix. Benzoate of sodium is given as already stated when there is irritation of the bladder. Quinia, iron and strychnia are often given with phosphoric acid. Some form of pepsin with hydrochloric acid is prescribed when there is stomachic indigestion. These drugs are invariably combined with cascara even when the patient disclaims any tendency to constipation. Very rarely is it necessary to prescribe anything else. No uterine probe or sound is used in my clinic nor is there ever made a uterine application. Our experience with pessaries has consisted solely in their removal. No uterine dilatation is practiced. I hardly need say much in explanation of this plan of treatment. My purpose is to record facts and not to attempt to defend a theory. Uterine dilatation is rarely, in my opinion, a justifiable procedure in an ambulatory patient. In the class of cases under consideration it would have been a dangerous experiment. For the same reason no application was made to the endometrium. My experience with hundreds of women during the past four years appears to show that it is unnecessary.

Some surprise may be occasioned by the absence of all reference to uterine displacements. It does not mean that they were not observed. They were usually found, however, in connection with pathologic conditions which were themselves of chief importance. In the absence of fibromata of the uterus or cysts of the ovary or broad ligament, in the absence of ectopic gestation, hematoma or other condition which mechanically influenced the position of the uterus, displacement occurred as the sequel of infection or the inflammatory action that had ensued. With an infected puerperal uterus, with adhesions which matted the parts together, it was evident that the infection was of the first importance, and it was usually found that when the infection was benefited by treatment, the uterine displacement disappeared or caused no inconvenience unless there were present conditions warranting operation. For this reason the displacement of the infected uterus was practically disregarded. The mobility of the healthy uterus was explained to our practitioner students by reference to well-known facts concerning the anatomy of the parts and by demonstration in patients free from infection. The presence of infection was pointed out both in reference to its etiologic relationship to the displacement and its importance as an object of attack in our treatment. The symptoms complained of were very much alike wherever there was infection which had extended much. There was pelvic pain and a "bearing down" sensation, usually increased during menstruation. There were often bladder symptoms, due to pressure, or to an amount of infection which showed itself by no objective symptoms. There was lumbo sacral, as well as inguinal pain, and there was often pain extending down the inner surfaces of the legs. There were reflex symptoms in great number and in varied character. It was our constant endeavor to secure an accurate record of all these symptoms. Our history also included a full description of all objective symptoms which were described as the "result of physical examination." For instance, under this head, the record would show "solid, movable tumor, oval in shape, apparently two inches in length, in cul-de sac," also, in the same case, "no tube or ovary palpated in left ovarian region," and under the head of diagnosis we would insert "prolapse of inflamed, left ovary." These facts are mentioned, for it is evident that the diagnosis, which is the deduction from the premises presented, may often be inaccurate, whereas the record of symptoms complained of and of physical findings is apt to be reasonably correct, provided the observer exercises proper care in the interrogation of the patient and is experienced in his examination.

In cases presenting the usual symptoms of infection, together with leucorrhea, uterine tenderness and sometimes enlargement as well, our diagnosis of the infection referred especially to the endometrium. Where infection of a cervical laceration was evident it was assumed that extension by epithelial continuity had taken place unless it was at the same time apparent that some traumatism was present or that retention of membranes or placental remnants had occurred. Curetting was advised in these cases when menorrhagia or metrorrhagia persisted, when offensive leucorrhea occurred as a sequel of labor or abortion, or when the chronic character of the infection and the continuance of the leucorrhea gave reason to believe that granulations had resulted. Curetting was not advised in cases which showed an extension of the infection beyond the endometrium. When pus was present anywhere in the pelvis its evacuation was considered rational and it was found that subsequently our routine treatment in time controlled the infection of the endometrium When congestion and other evidence of phagocytosis were noticed beyond the endometrium it was deemed judicious to persist in local treatment until the effects of infection were removed or until the formation of pus had become a certainty Especially in extension to the mucous membrane of the tube was it considered advisable to defer a curetting because the probability of a reinfection of the endometrium was a danger which our experience taught us to be imminent Indeed, in several cases where both tubes had been removed it was observed that the infection of the endometrium still continued and gave rise to symptoms scarcely less severe than those which were noted prior to the operation

Many of the cases where operative interference was advised and where circumstances prevented the acceptance of our advice were after all forced to submit to hospital treatment owing to subsequent pus formation or the development of other serious sequelæ Nevertheless it must be stated that in a certain number of cases when, in our judgment, an operation was urgently demanded, the symptoms, under our routine treatment, would gradually improve and finally disappear

When a fluctuating tumor was felt outside of the uterus, the anamnesis and the concomitant symptoms would permit us to determine the presence of pus Its immediate evacuation was recommended in all extraperitoneal cases The etiologic differentiation was often difficult and at times impossible We felt, however, that the important point to be determined was the relationship of the pus to the peritoneum Whether the suppuration was the sequel of invasion through lymphatics or veins of vulva, vagina, cervix or uterus or had occurred by an extension through the tube to the ovary or the pelvic peritoneum was, in our judgment, of insignificant importance in comparison with the necessity of determining the feasibility of operating without danger to the peritoneum In many cases where pus was diagnosed and in certain cases where its presence was demonstrated, it was observed that the swelling would subside, the pain would diminish, menstruation would become normal in character and the patient in time would be relieved of all symptoms

Where pyosalpinx was diagnosed, an immediate operation was not usually advised Our experience showed that quite often pus, in the course of time, would be evacuated through the uterus and all symptoms of infection would disappear Many chronic indeterminate cases were observed The excursion of the uterus would be restricted by adhesions The infection would have persisted for years with irregular exacerbations Pain tenderness, leucorrhea and menstrual derangement would be associated with various effects of infection In these cases especially our routine treatment would yield most satisfactory results In all cases the subjective symptoms would in time disappear or suppuration would become localized so that proper surgical measures could be employed

The record of these everyday gynecologic cases and the details of the simple treatment instituted will be considered of but little value by gentlemen who see in every woman only a patient to be operated on I venture to hope, however, that it is not without interest for us to realize the possibility of relieving distressing symptoms, even in serious cases, when circumstances prevent hospital treatment I consider it of importance for us to understand that patients can sometimes recover without curetting, uterine dilatation or the application of caustics to the endometrium I think it well for us to know that lacerations of perineum, vagina and cervix do not always have to be closed I regard it as a matter of interest to appreciate the fact that the day of the pessary has passed and that displacements are no longer of paramount importance It is, moreover, satisfactory to note that even in cases where the consensus of opinion would pronounce unhesitatingly in favor of operation, it is occasionally possible for milder measures to succeed in the amelioration of symptoms, while the patient continues to follow her usual pursuits The inference from this observation is obvious Infection is the factor of importance in most gynecologic cases Displacement, hypertrophy and hyperplasia are essentially the result of infection or the sequel of the consecutive inflammation Infection is chiefly to be considered in the adaptation of our therapeusis Indeed in many cases no thought need be given to concomitant conditions Caustics, astringents, scarifications and many ancient practices which prevailed when we sought to control inflammation are superseded by rational methods based upon an increasing knowledge of bacteriology

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CONGENITAL UTERINE ATRESIA AND DOUBLE HEMATOSALPINX

Presented to the Section on Obstetrics and Diseases of Women at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo June 7 10 1898

BY ALEX HUGH FERGUSON, M D

CHICAGO ILL

Congenital uterine atresia with consequent double hematosalpinx is sufficiently rare and interesting to crave your attention to a report of the only case suffering from these conditions met with in my practice This was a case of atresia of the cervix uteri without the least communication between the uterine cavity and vagina The vagina was nearly normal in size There was a free communication between the uterine cavity and the enormously distended Fallopian tubes and adventitious cysts in the pelvis The accumulation of six years of the menstrual fluid was imprisoned in the uterus, tubes and acquired cysts, except the amount that had become absorbed An operation effected relief

The history of the case is as follows Mrs B, patient of Dr Dame of Winnipeg, was admitted to the St Boniface Hospital, complaining of abdominal enlargement and frequent attacks of pain in the lower half of the abdomen She was a brunette, 21 years of age, of plump and healthy appearance, weighing 136 pounds, and sanguine in temperament In the history of her development during girlhood days there was nothing unusual When 15 years old, having then to all appearances grown to be a woman, monthly pains in her breasts, back and pelvis began and several months, with three or four days of suffering in each, passed by without a menstrual flow appearing When about 20 years of age a physician was consulted, and then she was given internal medication, but no physical examination of the generative organs was made Two years were consumed in general treatment and still no flow appeared During these four years (18 to 22) her general health was good She was constipated She enjoyed life as other girls did, except at monthly periods, when pains and local pelvic distress were severer each succeeding month than during the previous one Latterly, however, attacks of cramping pains intervened between the periodical monthly disturbances, and the abdomen became enlarged, perceptible only to herself at first A few more months of suffering elapsed, the attacks becoming more frequent and the abdominal enlargement well pronounced She then consulted the late Professor Fenwick of Kingston, Canada, who diagnosed her case and opened the abdomen, in 1893, with the idea of removing the tumors He found the pelvis filled with two cysts, and so extensively attached with vascular adhesions to omentum and bowels that he thought it best to leave them alone He closed the abdomen and left the blue and vascular-looking cysts in the pelvis She made a speedy recovery from the operation Her sufferings continued, and the tumors increased in size Still her general health was fair, and she was able to do her share of home household duties A few months afterward she married and moved to Manitoba, where she fell into the hands of Dr Dame, who referred her to me for operation A physical examination revealed a prominent abdomen immediately above the pelvis, a tender mass extending on left side to a point midway between the pubes and the umbilicus, and another on the right, not so high, but equally tender The vulva, vagina and cervix appeared normal to sight and touch A uterine probe passed into os uteri about one-eighth of an inch and there became obstructed The occlusion was inspected through a straight cervical speculum There was nothing to be seen but smooth mucous membrane The atresia was undoubted The uterus was slightly movable and two tender masses could be felt, one on each side of it, and extending backward and downward, filling the pouch of Douglas Bimanually it felt more like a double pyosalpinx than anything else She had a temperature in her last attack of local peritonitis, and it was feared that the retained menstrual fluid had become infected The rectum was free from trouble Coitus was always a little painful to her at first, but she was quite amorous and enjoyed the orgasm

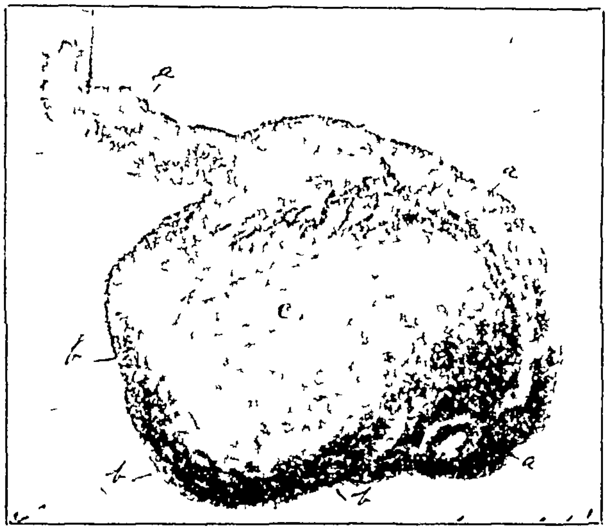

Fig 1—Left hematosalpinx four ninths actual size a fallopian tube b, ovarian tissue thinned out and forming part of cyst wall c cyst

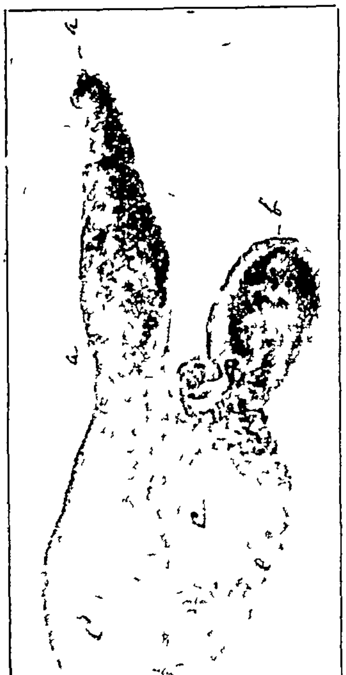

Fig 2—Right hematosalpinx, four ninths actual size a, fallopian tube b, ovary c cysts

Operation—On June 16, 1894, assisted by Drs Dame and Todd, I successfully removed the double hematosalpinx The abdominal scar tissue was extirpated, the abdomen opened, the adhesions rapidly stripped off, commencing behind the left horn of the uterus, where a free cleavage point was found No difficulty was experienced in turning out the left dilated tube and ovary without rupture of the tube or cyst I then amputated the left Fallopian tube down to the uterine mucosa The uterine cavity was filled with a dark-looking tenacious fluid and freely communicated with the Fallopian tube, which was distended with the same material An interlocking ligature of silk was applied to the pedicle and the mass cut off The hemorrhage, although copious, was not alarming and was easily controlled A probe was then passed into the uterus and extended into the cervix beyond the internal os The cavity of the uterus was not much enlarged I decided not to remove the uterus, but to open and drain it per vaginam The dark, treacly substance was squeezed out, and the hole at the cornu closed with catgut sutures The right dilated tube and ovary were dealt with in a similar manner, and the abdominal operation completed without delay On account of the extent of the raw surface left, both gauze and tube drainage were inserted The cervix was exposed through the vagina and split transversely a distance of about half an inch, when the uterine cavity was reached It was washed out and drained with gauze The patient made an uninterrupted recovery and left the hospital on the twenty-third day after the operation Three weeks afterward the silk ligature (the only silk used) on the left stump misbehaved and came away via abdominal incision, after which she remained well A year later the cervical canal was quite patulous and she was enjoying excellent health

THE SPECIMENS

Fig 1 represents the left hematosalpinx two thirds its actual size It is, more properly speaking, a tubo-ovarian retention cyst, inasmuch as the ovary forms part of the cyst wall, and the contents consist of the retained menstrual fluid Fig 2 represents the right distended tube and ovary, two thirds its actual size The ovary is distinct by itself and in a condition of cystic degeneration The Fallopian tube and adventitious cysts at its end contain menstrual fluid The plates are accurate, the drawings being made before the cysts were opened, so I shall nót describe the external appearance of the two specimens

The pathologic anatomy and nature of the retained menses are well known In this connection let me say that two fimbriæ of the left tube could be differentiated within the cyst, and the contents were free from germs

THE USE OF THE CURETTE IN ACUTE INFECTION OF UTERUS WITH ADHERENT PLACENTA

Presented to the Section on Obstetrics and Diseases of Women at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo July 7-10 1898

BY D S FAIRCHILD, M D
CLINTON IOWA

In the midst of the discussions of the more difficult and complex questions of abdominal and pelvic surgery our leading and most eminent gynecologists, whose opinions are of inestimable value to workers in more limited fields of general gynecologic work, often fail to furnish us lessons from the results of their own varied experience in the less brilliant but equally important matters pertaining to every-day practice

I have often been impressed with the thought, if our information was definite enough in relation to the use of the curette in removing attached portions of placenta in cases of abortion, premature labor or labor at full term when infection has occured It is clear enough that in diseases of the endometrium the curette is of great value and is, as a general rule, properly used in the cases ,which come under our daily notice But in the cases where, from the retention of small masses of adherent placenta, infection has occurred, the uterine mucosa is softened, the uterine lymphatics are blocked with infectious thrombi and the temperature elevated from absorption of septic material, is it really safe to employ the curette in a vigorous and indiscriminate manner? I have frequently observed in general surgical practice that in certain cases of local infection anything more than the most careful and delicate procedures has been attended by a sudden accession of the local symptoms, together with a marked rise of temperature and have observed the same condition arise after curetting a uterus containing acute infective material

I am aware that many advocate the use of the curette in septic conditions of the uterus following abortions or after labor, when there is reason to believe that portions of placenta are still retained in the organ I have of late years been led to believe that this is not an altogether safe practice to follow Great discrimination should be employed in resorting to this procedure, otherwise much harm may be done

In cases where decomposing material affected by saprophytic micro organisms is retained in the uterus the influence of which is marked by high temperature and offensive lochia, the dull curette employed carefully for the purpose of removing from the organ the offending substance, which has but little or no attachments to the uterine walls, is an exceedingly valuable procedure, followed by irrigation with sterilized water When, however, a septic endometritis exists in connection with necrotic decidua burdened with septic germs, streptococci, the curette may become a very dangerous instrument In these cases it is quite easy to inflict a trauma which may serve as an additional means of introducing septic germs into the system The protective granulation layer which serves a conservative purpose of limiting the constitutional infection may thus be distributed, furthermore it is quite possible to penetrate the softened uterine tissue and thus lead to most disastrous results

The use of the curette in the removal of adherent portions of placenta in the early period after an abortion, before a septic inflammation of the uterus has occurred is beneficial and this together with thorough irrigation will save some of the danger of infection But after septic infection has once developed this treatment is attended, with considerable danger as I have abundant proof in my own hands and in the practice of professional friends I have no recent misfortune of my own to record for I have long since abandoned this method of treatment The removal of adherent masses under these conditions by scraping with the finger nail is not less hazardous, but even more so, on account of the trauma inflicted and on account of the risk of introducing germs which may lie concealed under the nail, especially under some nails which may be used for this purpose The conditións which we have to contend with in these cases are purely surgical and should be treated accordingly

If a surgeon, in the treatment of an infective wound, should undertake to remove necrotic tissue by violent means he would find that the condition of the wound and the general condition of the patient would become more serious In all cases of septic infection, whether of wounds or of the uterus, drainage is the first consideration together with the removal of infective material so far as possible without disturbing the boundaries which conservative efforts have placed for the purpose of protecting the system against infection It often becomes a delicate question what to do in cases of sepsis arising from the uterus The general practitioner will, in a great number of cases be called upon to decide what course to pursue, and if he has in mind the necessity of employing the curette as the most approved method of treatment he will sometimes be led into most serious difficulty and do his patient great harm A correct appreciation of the pathologic condition should underlie the measures to be employed If the examination reveals the existence of necrotic decidua, bearing saprophytic micro-organisms, giving rise to sapremic intoxication, the careful use, of the dull curette, not for the purpose of scraping the interior of the uterus, but for the purpose of facilitating the escape of the contents of the organ, followed by irrigation with sterilized water, will accomplish the desired end If, as it is sometimes found, the os is somewhat tightly closed, under the influence of an anesthetic the cervix can easily be placed in the most favorable position and sufficiently dilated for satisfactory drainage If it is found however that the uterus is swollen and the endometrium softened and infected with streptococcus only the irrigation should be employed and the irrigator handled with great care lest the violence disturb the granulation layer and expose new points for the ab sorption of infection and thus expose the system to a larger dose of poison If the examination reveals the absence of an offensive discharge, and the general symptoms are profound and not attended with local conditions other than a septic and necrotic endometrium, no local treatment should be instituted, for it is probable that the uterus is infected throughout, that a condition of thrombo phlebitis exists, that the *uterus is softened that no granulation layer exists*, and the use of the curette or irrigation can do no good, but rather harm, and should be avoided Whatever may be the merits of a vaginal hysterectomy in these cases can not be considered in this paper for the reason that the great multitude of physicians who have these patients to treat can not afford to employ it in general *It will occasionally happen that the os is closed in* cases in which it will be necessary to reach the *interior of the organ I do not remember of meeting* with a case where I could not dilate the cervix with my finger when the patient was under the influence of an anesthetic, but if the cervix is too rigid to be dilated in this manner forcible instrumental means may be employed, but great care should be observed lest a trauma be inflicted and at least afford additional facilities for the absorbtion of septic material

This paper is presented simply as a protest against what I believe to be a indiscriminate use of the curette in acute infection of the uterus While these observations may not have any application to leading members of the profession I am quite sure that the lines bounding the use of this instrument are not often enough drawn to furnish safe guides for many practitioners whose experience is more limited

I contend that great care should be observed in the use of the curette in acute infection of the uterus

In cases in which portions of placenta are adherent they should be removed by the sharp curette, but before infection has occurred, under antiseptic precautions If infection has developed, it is safer to remove all detached portions with a dull curette with[illegible]ut inflicting trauma, irrigate and drain If infec[illegible]n of the uterus has occurred without offensive [illegible]chia but with serious constitutional symptoms, no curettement or irrigation should be employed The dangers of the free use of the curette are of two kinds 1, inflicting trauma which may facilitate absorption of infection material, 2, the penetration of the softened uterine tissue If the os has closed retaining in the uterus suspicious or decomposing material, very careful dilatation should be employed under an anesthetic, detached masses removed with the dull curette and gentle irrigation employed, the whole procedure so conducted as to inflict the least trauma possible

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THE EFFECT OF UTERINE CURETTAGE AND DRAINAGE ON DISEASE OF THE TUBES

Presented to the Section on Obstetrics and Diseases of Women at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June 7-10, 1897

BY W W GRANT, M D

DENVER, COLO

One of the commonest diseases of womanhood, and at the same time one of the most serious in its consequences to health and life, is inflammation of the Fallopian tubes It is very generally, if not uniformly, secondary to disease elsewhere Like peritonitis, it is not idiopathic It is a common cause of sterility, either in direct consequence of the disease, or as a result of the surgical measures employed for its cure It leads not infrequently to fatal results Therefore to prevent mortality and to preserve mental stability and the functions of maternity, disease of these appendages is second in importance to no other, and appeals always to our highest consideration and best judgment

It is just to say that pyosalpinx is a purely surgical condition, requiring some form of operative procedure for its permanent cure, yet cases now and then recover without recourse to the knife As uterine endometritis is the usual cause of salpingitis, it is self-evident that whatever means will prevent, or most speedily cure, the former disease can only tend to the preservation of the functions and integrity of the tubes *Acute aseptic corporeal endometritis is* not often observed As sepsis following abortion, labor, gonorrhea or operations, is the usual cause of serious forms of uterine endometritis, and secondarily of salpingitis, it follows that prompt and efficient treatment of the endometritis is a primary necessity of the greatest importance In gonorrheal endometritis the virulence of the gonococci is not, at this stage, so great, being rarely acute even at a comparatively early period, and is not therefore manifested by the severe positive symptoms of the acute vulvo-vaginal, uretheral and cervical forms of the disease, consequently it is generally overlooked To Sanger is credited the statement that about one-eighth of all gynecologic diseases are credited to gonorrhea Unlike puerperal sepsis there are no immediate constitutional or peritoneal indications, these being dependent upon septic absorption as well as extension of the disease in one case, and chiefly extension of the inflammation to the tubes in the gonorrheal form, and usually by leakage from the abdominal ostium of the tube inducing severe violent or local peritonitis In every form of septic endometritis except the early gonorrheal, the wise and accepted rule of treatment is to clean out all debris and foci of infection from the uterus by curettage, irrigation, or both, ordinarily supplemented by gauze drainage The rule is the reverse, in fact the treatment is negative, as to the early period of gonorrheal endometritis, on the ground that to curette the uterus at this time and in this condition is to open up new channels of infection and cause a more certain extension of disease to the tubes and peritoneum I very much doubt the wisdom of the usual inaction and delay at so important a juncture The reasoning I believe more theoretic than practical The uterus is not in the soft receptive state of the puerperium, and yet we know that the mortality in the latter has been greatly diminished and should practically be abolished by early curettage, irrigation and gauze drainage *Deep and thorough curettage is specially* necessary in the gonorrheal cases, because the utricular glands are deeply affected *After curretting apply* immediately such a mixture as iodin and carbolic acid, and then antiseptic gauze for drainage and there need be little fear of aggravating the disease The surgical principle involved is the same in all—to remove the diseased tissue, which is the source of infection, and place the parts in the best possible condition for drainage and thus prevent further infection This is the dictum of modern surgery and I believe should be applied in the early period of uterine gonorrheal, as well as puerperal or other infection It is usually during the period of declension, which in the adult is not usually vaginal, that the endometrium becomes affected and there should be no great risk in curetting at such a time.

Not a great while ago I treated a case of gonorrheal puerperal sepsis in which the wife in the last four or five weeks of pregnancy contracted gonorrhea from her husband, she never knowing the nature of her disease. By all possible cleanliness and the use of sublimate irrigations to the very hour of labor I hoped to prevent puerperal sepsis. But distinct chills and temperature of 103 degrees on the third day, alternating with perspiration and attended with pain in left ovarian region, left no doubt as to the nature of the trouble. There was distinct swelling of the left tube, with a well defined circumscribed tumor at the site of the ovary, no parts of membrane or placental tissue were found in the uterus, which was immediately irrigated and drained with iodoform gauze. This was repeated several times in the course of a week, with resulting lower temperature. After a vacillating and uncertain history for two or three weeks the patient gradually improved, with a steady decrease of the tumor and temperature, which in seven weeks disappeared without operation or rupture of abscess—I supposing abscess would result. Her recovery was finally complete and she again became pregnant. The right tube was not involved. I have no doubt the sepsis was gonorrheal in origin and by extension to the tubes produced severe local peritonitis.

On Nov. 29, 1896, I was called to see Miss L., aged 20, who the night previous had slight chills with pain in the hypogastrium. About a month before she contracted gonorrhea, which had produced endometritis, suppurative salpingitis and local peritonitis, doubtless from leakage of the tube. The left tube was swollen and tender, with a distinct circumscribed swelling as large as an unhulled walnut in the left broad ligament, with a temperature of 103 degrees and a free mucopurulent discharge from the uterus. Suspecting there might be remnants of an abortion, the patient was anesthetized the second day, the uterus dilated and no evidence of abortion found. It was now thoroughly curetted under sublimate irrigation of 1 to 4000 and gently packed with 5 per cent. iodoform gauze for drainage which was removed at the end of the third day. The temperature immediately fell to 101. The operation was not repeated. For three weeks the temperature varied from 99 to 100 in the morning, to 101, and occasionally to 102, in the evening. At no time was there much tympanitis or evidence of extensive peritonitis. After this there was steady improvement, the swelling or tumor gradually disappearing and a diminishing pus discharge from the uterus, with occasional—temporary—interruptions. She was in bed eight weeks, when the tumor had completely disappeared. Slight uterine discharge continued two or three weeks longer. After curetting, the treatment was rigid confinement to bed with hot antiseptic vaginal irrigation and cotton batting and bandage to abdomen, mercury and iodid potash internally and salines, with rarely an anodyne.

This was an undoubted case of gonorrheal purulent salpingitis with severe local peritonitis due probably to leakage, and in which there was not the usual closure in such cases of either the abdominal or uterine ostium of the tube. I have examined this patient several times in the past year, the last recently and she is, under bimanual palpation as well as symptomatically, entirely well. Menstruation is perfectly regular and painless, though not quite so profuse as formerly. In such cases operation by section or even per vaginam is not advisable in the acute stage because of the greater virulence of infection and danger, unless demanded by impending general peritonitis. In each of these cases I believed that a subsequent operation by incision and drainage or extirpation would be necessary, in accordance with our more common experience. Pus tubes and small accumulations by leakage are soon encysted by inflammatory adhesions and in the absence of extending peritonitis, general infection or other grave symptoms, the indications for immediate operation are not urgent, and it may safely be deferred a few weeks.

A sister of the last patient suffered from gonorrhea about the same time, but with no acute symptoms referable to uterus or tubes, yet disturbed menstruation, irregular, more profuse and painful and ill health, caused her to consult me a year later. She was suffering from chronic endometritis and right catarrhal salpingitis, for which in January, 1898, I curetted and drained the uterus. Small strips of gauze with mild iodin and carbolic acid applications were applied once a week for five or six weeks. Her health improved steadily, and is now fully restored.

Mrs. C., aged 26, in first labor July, 1896, suffered two or three days from puerperal intoxication, or sepsis, due to retained membrane, which was promptly relieved by curettage irrigation and drainage. A few months later she experienced some pain in the right ovary and tube, which in six or eight months was greatly increased, especially at menstrual periods and when on her feet much. She was exceedingly nervous and at this time I found the uterus retroflexed and slightly adherent, the fundus thickened, as it is so commonly in retro displacements, with pain and tenderness and slight enlargement of right tube from interstitial inflammation. leucorrhea slight and inconstant. With patient in knee chest position, and by the use of two fingers in the vagina and moderate pressure, the uterus was immediately replaced, but followed immediately by increased pain, and a temperature of 101, which was reduced permanently to normal in twenty four hours by absolute quiet, which was maintained for a week, the uterine tenderness to pressure and pain in the right side continuing moderately during this time. After two or three weeks, the local symptoms being in abeyance, the uterus was curetted and drained with iodoform gauze, and a pessary (Albert Smith) inserted, and the patient kept in bed two weeks. After the operation she improved rapidly in every respect, gaining ten pounds in a month, and is now perfectly well and entirely free from nervousness and pain at any time.

In line with the foregoing treatment, the following case seems to me of interest.

Mrs. W., aged 28, confined two years before, labor normal. Returned from visit to the East latter part of October 1896, was taken early in November with mild typhoid fever. About the 20th ordinary menstruation was manifested. On the evening of the second day the flow suddenly ceased, with severe uterine colic, which continued all night. Believing the history for two or three weeks and present condition demanded a thorough and immediate investigation the patient was anesthetized, and examination revealed a rigidly anteflexed uterus, fundus slightly enlarged and a small tumor in left broad ligament. The two or three preceding menstrual periods were attended with some pain in this locality, while menstruation had always previously been painless. It was impossible to insert the blades of the dilator, so I succeeded with small conical dressing forceps in entering the uterus, when about an ounce of dark menstrual blood escaped. The internal os was rigid, the tissues hard, but yielded slowly and sufficiently to the dilator. There was no growth or debris in the uterus. It was gently curetted and irrigated and packed loosely with iodoform gauze. The pain ceased at once, and menstruation has been regular and painless to the present time. The tumor gradually disappeared without further treatment and the patient progressed and convalesced in the usual way with the fever.

This was unquestionably a case of hematometra—hematosalpinx and hematoma from gradual and finally complete obstruction at the internal os due partly to mechanical constriction from an unusual degree of anteflexion and probable cicatricial contraction at the os internum. This is an unusual complication, subsequent to labor and manifested under such conditions excited more than ordinary interest.

I have confined myself to the presentation of a few cases from my list that seem typical to accentuate certain facts and probabilities in reference to disease of the tubes, their cause and treatment I refrain from discussion at present of the plain operable cases, It is evident that some cases of pyosalpinx will recover without operation by drainage through the uterus That the best treatment of subacute and chronic and interstitial salpingitis is curettage and drainage of the uterus, using such other local and constitutional means as may be indicated or appropriate to the case, and that such treatment may be useful in some cases of purulent, not cystic, salpingitis, though not as a rule deemed wise and appropriate in acute salpingitis, yet I believe it true that rough examinations and manipulations and pulling the uterus down, thus stretching the inflamed organs and tissues, would do more harm than gentle curettage of the uterus and the application of iodoform gauze for drainage

As the endometrium is the usual channel by which disease invades the tubes, we should in all cases, infectious and non-infectious, give the former prompt and earlier consideration than is frequently accorded, and this is especially true of gonorrheal cervicitis and corporeal endometritis, which not being ushered in with severe and acute manifestations, is generally overlooked and if observed at an earlier period, as it may be, should be treated by curettage, irrigation and drainage, not only to cure the local disease, but contrary to the generally accepted opinion, to prevent the extension of the disease to the corporeal endometrium tubes and glandular tissues The left tube is more frequently affected than the right, and when the disease is unilateral, I believe the treatment advised will very generally tend to prevent extension of the disease to the sound tube and ovary, which should be preserved always when not destroyed by disease, even should it become necessary to remove the appendages of the opposite side Such possible contingencies is no defense for their sacrifice It is doubtless quite well understood that drainage is not a positive necessity after curetting an aseptic uterus under aseptic conditions, but I always use the antiseptic gauze nevertheless, and have never had occasion to regret it In two or three hundred cases of curettage, some of them septic, but most of them not, I have never seen a single unpleasant result from the use of gauze drainage Penrose in his recent excellent work says that "gauze is liable to obstruct the escape, rather than favor drainage, of discharges from the uterine cavity," and that "elevation of temperature and uterine pain are often caused by it"

I think surgeons are quite well agreed that no better drainage material exists for use in the peritoneal cavity and appendical abscesses, and I am quite certain that most of those who have used it extensively in the cavity of the uterus, are equally favorable to its use, most certainly in septic cases Yet if it should produce fever by not draining the aseptic uterus, its use would be inappropriate in the septic, and I am quite confident this is not the experience of most operators I have long been convinced that antiseptic gauze is, by all odds, the best possible material at our command for draining the septic uterus, and that it not only keeps open the cervical canal, but maintains a germicide in easy and direct contact with the whole diseased surface and drains effectively in obedience to a well-known law of physics Of course if allowed to remain longer than three or four days, it may become saturated with mucus and will not then drain so perfectly Its effect is to deplete the uterus and appendages by rapid osmosis, and a free discharge, and in a marked degree promotes involution If the uterus is well dilated, well curetted, and the gauze properly applied, by gently filling the cavity of body and neck, permitting it to protrude into the vagina, no one need have any apprehension or disappointment as to its action

DISCUSSION ON PAPERS OF DRS LEWIS, FERGUSON, FAIRCHILD AND GRANT

Dr **JOSEPH EASTMAN**, Indianapolis—Drainage which does not drain is useless, drainage which impairs drainage is worse than useless Dr Savage laid down the law with regard to uterine contraction of the fundus, that an accumulation of gauze or any substance in the body of the uterus secures the contraction of the cervix In those cases to which the Doctor referred I use a metallic substance in the cervix to secure contraction of the fundus, thereby lessening the area of surface for the absorption of septic material

In abdominal drainage for appendicitis or other purposes I can not any longer trust to gauze drainage in the lips of my wound as I have found it strangulated and drainage arrested I would suggest in the place of gauze a metallic or some hard rubber drainage, like the plug of Wylie, in addition to gauze drainage in order that it may remove material, and not place some foreign substance in the cervix which impairs drainage

Dr **ALBERT GOLDSPOHN**, Chicago—I wish to say a few words regarding the paper of Dr Fairchild endorsing his ideas *in toto*, and wish to say that not sufficient distinction is made between the puerperal uterus and the non puerperal or ordinary gynecologic uterus in pathology and treatment If we think for a moment of the consistence of the former and the consistence of the latter, how great a difference there is, and how great a difference there is in the condition of the lymphatics in the former as compared with the diminutive size of those structures in the latter, we can readily see how curettage of the puerperal uterus should not aim at doing anything to the lining of the puerperal uterus, but this measure should be resorted to simply to facilitate the extrusion of what stands on top of the mucous membrane, and the idea of using a sharp curette particularly a small one, is most abominable I have seen the evil of this repeatedly in the hands of other physicians If we use a curette at all it should be a blunt one and large so as to be able to rake as large a surface with each stroke as possible But in conjunction with the use of a large blunt curette we must bear in mind the Emmet curette forceps, which of all things that Dr Emmet's name is attached to, I appreciate the highest for this work

Dr **H G WETHERHILL**, Denver—I have maintained that the curette in acute septic conditions is very much more likely to do harm than good If used at all, it must be used to remove a foreign body and must not be used with the intention of denuding uterine surface, thus opening up new avenues for infection The position so long taken by our President (Dr Price), is the one I take, namely, that the finger is the instrument of instruments wherever it is possible to use it Where it is not long enough, then possibly a dull curette or the placental forceps of Dr Parvin or the forceps alluded to by Dr Goldspohn may be used Only a little while ago an instance of this kind occurred in this city, the case being one of induced abortion The woman was neglected for a long time until serious symptoms arose, when she was seen by one of the best practitioners in our city, who, nothwithstanding the critical condition in which she was, sent her to the hospital with a pulse of 120 and other symptoms accompanying it, and realizing that she was in a condition for radical work, he curetted the uterus The next day she was worse when I saw her with him, and we concluded that general peritonitis existed, and that there was little chance of a favorable result under any circumstances, and that one chance was in the direction of opening the abdomen and thoroughly cleaning out the focus, which had gone beyond the uterus, and in that way making an effort to save her life The abdomen was opened and the peritoneum was covered with lymph clear to the diaphragm The point I want to make in connection with this case is this What possible use is the curette going to do when the infection has gone outside of the uterus into the lymphatic and involved the peritoneum? As I have said before in this connection, you may just as well excise a vaccine mark after the eighth day to prevent the effects of vaccination It is entirely beyond your reach, and I maintain further that no man can say absolutely when that point has been passed

Dr Milo B Ward, Kansas City, Mo —I believe we have much trouble in these cases because we use irrigation We do not dilate the cervix enough and try to wash out the material we ought to get out with a curette or with the finger or tampon of gauze We dilate the cervix a little and try to wash out the débris with water, and we nearly always have a chill afterward, which means a septic infection results from water being used It is my judgment that we have more trouble caused by the finger nails of physicians and surgeons in the way of sepsis than by any other one cause When I die, Mr President, I want this epitaph put at the head or foot of my grave, "Here lies the greatest crank on finger nails in the world, except Dr Joseph Price "

Dr William H Humiston, Cleveland—In cases of delivery at term where symptoms arise indicative of retained products of conception, we should first explore the uterus without doing any damage and determine whether there is material there or not If so, remove it carefully and thoroughly cleanse the uterus You can remove it with the finger, a dull scoop, but not with a sharp instrument as with a sharp curette you will open up new channels for infection If you have a case with a history of criminal abortion where drastic measures have been used to bring it about, undoubtedly the infection has extended beyond the uterus into the lymphatics and involved the broad ligaments, etc , and you may curette such a uterus until you are gray headed and do nothing but damage

Dr F F Lawrence, Columbus—One point in regard to the second paper So far as the first paper is concerned, I am in accord with a number of the speakers that in puerperal septic conditions of the uterus we should not use a curette The point I wish to make is with reference to the shape of the uterine cavity, the angles at the fundus I believe we do harm when we express the opinion that curettage is a simple operation I believe more women have been killed by both immediate and remote conditions by the improper and unskillful use of the curette than by any other gynecologic means or effort It is utterly impossible to clear out the cornu of the uterus in diseased conditions with a large sized curette It must be a small curette If you curette the lower surface or mucosa and leave the cornu with infected material there, what good is done? What is the possibility of preventing subsequent and almost positive or continued infection extending into the tubes? As to the disappearance of pus tubes following curettage possibly such a thing is trne, but I have always feared personally to use the curette in cases in which I have reason to believe there is pus in the tube There may be a thin portion of the tube, and traction and manipulation of the uterus, which is necessary in these cases, may carry the infection to the general peritoneal cavity and develop a septic peritonitis I think we are safer in any case, where we have reason to believe there is pus, to remove it thoroughly and thus get rid of any possible source of infection

Dr T M Burns, Denver—I have a few words to say in favor of the sharp curette In the first place, I do not consider it a hoe nor a crowbar I consider curettement of the uterus an exceedingly delicate operation, and it must be done with great care It may be compared, as regards delicacy with the extraction of a cataract from the eye If we have an infected uterus with retained placenta, the retained placenta is a focus of infection, and the remnants of placenta or rotting mass should be removed promptly and as thoroughly as possible If you can do it better with your finger or dull curette, all right I can do it better with a sharp curette It does not require so much force to do it It seems to me we have to use a greater amount of force with a dull curette than with a sharp one, and thus do a greater amount of violence to the uterus If curettement is done carefully and properly with a sharp instrument there is very little danger

Dr B Sherwood Dunn, Boston—I rise to endorse the position taken by Drs Wetherhill and Goldspohn The curettement of the uterus is by far a more dangerous operation than that of abdominal section, and I think the consensus of opinion of gentlemen who have had a large hospital experience will be that more women are crippled for life by the use of the curette, either dull or sharp, in the hands of an incompetent general practitioner or a gynecologist in embryo, than any other one procedure in surgery I have myself removed not less than thirteen uteri subsequent to incompetent curettement I believe the consensus of opinion of the best surgeons is opposed to the use of the sharp curette in post puerperal conditions It is only necessary to look at the literature to ascertain the number of uteri that have been perforated by the sharp curette in the hands of careless practitioners The post puerperal uterus is a large, soft, soggy organ with practically no membrane lining it The postpartum symptoms are equally apparent, only a few hours intervening between parturition and the rise of temperature and pulse, showing postpartum infection by reason of other foci of membrane or placenta that has been left I am absolutely convinced that these foci of infection are more readily and perfectly removed with the wire curette than by the sharp instrument and it does no injury to this disorganized organ, for it certainly is disorganized at the moment you operate upon it for any post partum pathologic condition

In regard to the case reported by Dr Ferguson It was my fortune during my hospital service in Paris to have a similar case come into my hands It was so unusual that a number of my masters were present at the operation After opening the abdomen we found posterior to the uterus and filling up the posterior cul de sac a large hematoma as large as a fist, impinging upon the cul de sac of Douglas The ovary was partially coalesced upon the wall of this tumor the Fallopian tube was permeable with the cavity of the uterus, as was the one in the case recited by Dr Ferguson On the opposite side there was a pervious tube with a large edematous, badly cystic ovary unattached to the tumor, which was of minor importance, and then the one point of cardinal importance in the case was that the uterus was filled with the tumor which swelled it, and at the point of the internal os, where the congenital atresia had probably commenced, there was a sharp delimitation of the tumor The external os was conical on account of delimitation We decided that so far as motherhood was concerned the organs could be preserved We closed the abdominal incision, I resected the uterus at the point of its vaginal insertion, and there was a little white spot in the center of the uterus where the canal should have been, and with the thermo cautery I opened what should have been the canal and when I withdrew the cautery the pressure was so great that the blood and water contents were thrown over my face and garments Two years afterward this woman bore a child Three months afterward I did a subsequent operation, removing a large hematoma on the left side

Dr George J Engelmann of Boston—In regard to Dr Lewis' paper, some of the points he has made have been lost sight of in the discussion of the surgical points, which are always more interesting ' And it was well, too, that the curette was taken up, because it is a safe instrument in skilled hands, and yet I know, as you all do, of so many sad cases throughout the country But I was surprised to see in the reports of a large hospital a mortality of 2 per cent It ceases to be a trifling operation when we have this mortality in skilled hands, and from the days of the wire loop of Thomas I have fought the dull curette It is a sharp knife and a sharp curette which the surgeon wants A dull instrument will do mischief, that is, in the non puerperal uterus The dull curette is a diagnostic instrument, but only the sharp curette should be used for surgical purposes In the puerperal uterus I have used the large sharp spoon of Simon It is not a curette, but a wire loop with which we bring out the detritus Dr Lewis has called attention to the fact that we must treat cases, not as ideal circumstances demand, but as the existing conditions demand, and this is frequently forgotten, and in all our discussions I believe it is overlooked We invariably seek the treatment as it should be under the most favorable circumstances, when the facts are that we meet with cases in actual practice and must do the best we can for them under very unfavorable conditions Cases that come to our out patient departments are too much neglected in many of our large institutions We must attempt to do something for them, there may be cases which go into the hospital, and we must attempt to relieve them, and Dr Lewis has placed these points before us in his paper and has given us the methods he has pursued in ambulatory cases If a patient presents herself whose case is inoperable, she probably receives an astringent or antiseptic douche, and then goes

Dr S C Gordon Portland Maine--I fully agree with the gentleman who said that curettement of the uterus is a very serious operation A patient should be prepared for a curettement with as much care as for an abdominal section and the most important point in the curettement is that you should dilate the cervix beyond all question Simply putting in a dilator and opening it an inch or an inch and a quarter is not sufficient dilatation by any means You can not be sure of washing out the detritus in the uterine cavity until you have overcome the constriction by proper dilatation I do not like the use of chemicals in the uterine cavity but I wash out with sterilized salt solution I also believe it is important for at least twenty four hours to put in a tape, as I do not like packing the uterus, and this will give you drainage that you can not get in any other way We know how important it is to have drainage, and I believe by curettement in a great many cases, we can avoid what has been and is being done so badly, namely, operations for closure of the lacerated cervix I scarcely close a lacerated cervix now at all I find few cases in which I have to do it, but I have seen so much harm in treating so many cases of pus tubes following trachelorrhaphy, that I think it has done ten hundred times as much harm as it has done good I agree with Emmet fully in that matter, that it is a serious thing to close a lacerated cervix But the beginner in gynecology thinks that trachelorrhaphy is a simple thing to do By doing it we close the passage and we entirely prevent the most important thing, and that is drainage, and I had a good deal rather instruct young men never to do a trachelorrhaphy, but to resort to dilating and curetting, telling them that they will do the patients a great deal more good and very much less harm

Dr **Emory Lanphear**, St Louis—If you will but recall the pathology which underlies postpartum and post-abortal septic infections you will come upon a common plane In the case of saprophytic infections we have no implication of the uterine mucosa until very late, in which instance the dull curette or the finger, after proper dilatation, is all that is necessary When we have the staphylococcus pyogenes aureus, albus and citreus affecting the uterus, then must we remove the infected tissue, which is the uterine mucosa, and which can only be accomplished by the use of the sharp curette When we have streptococcus infection, no curette under heaven will do the patient one bit of good

Dr **Lewis** (closing the discussion on his part)—Four years ago, at the time the large dispensary of the Chicago Policlinic was placed in my hands, I had been in the habit for many years of having charge of the gynecologic and obstetric wards of the County Hospital of our city I had operated on pyosalpinx and the usual diseases, and I had absolutely no knowledge of the cases presenting themselves at the dispensary The first day I assumed charge there, the first patient who presented herself had a pyosalpinx as far as I could diagnose it, and I advised immediate operation She said she was unable to go into the hospital because her children were ill and she had to take care of them The next patient had a laceration of the perineum with rectocele, I advised operation in her case, and for sociologic or economic purposes, she was unable to accept that advice And so it went on, case after case appeared at the dispensary which in my judgment required surgical interference, and they were unable to accept the advice I gave them Under the circumstances I felt it was necessary to do something, and I persisted in the treatment which I have outlined to you today, and the results were gratifying, and in many instances most surprising, to me For that reason I have taken the opportunity of presenting to you cases that will prove very surprising to others as well as myself

I should like to go into the subject of the use of the curette, but time does not permit, and I will say nothing further about it, except to remark regarding the statement made by one gentleman who spoke of perforations of the uterus, and intimated that the sharp curette was responsible for such perforations more frequently than the dull curette As a matter of statistics, the uterus has been perforated with dull instruments more frequently than with sharp curettes The probe, the uterine sound, and the silver catheter have caused more uterine perforations than sharp instruments This is simply a matter of statistics, which I have looked up

Dr **Grant** (closing the discussion on his part)—There was one statement made by one of the speakers which I think should not go unchallenged, namely, that because the infection has gone beyond the uterine endometrium and has infected the tubes, it is useless to remove the diseased condition in the uterus I do not think any more fallacious surgical principle could be advanced, that simply because we can not reach the disease all at once we should do nothing That is about the feeling of the criticism of one of the speakers, who believes that we should not curette a uterus which is really the *fons et origo* of the trouble The most important thing is to scrape away all of the diseased tissue that has caused the trouble and which if left continues to infect neighboring structures

I very much regret that some of those gentlemen in the discussion did not devote a little more time to those cases of gonorrheal origin which are so very frequent and of very great importance I was in hopes of hearing something from some of my distinguished friends here in reference to the early treatment of these cases They are certainly common and overlooked These cases should be curetted more frequently

With reference to the question of curettage and drainage, one of the gentlemen made the statement that this practice might cause infection on account of the free raw surface which is made by the curette I have stated that if the septic material is thoroughly removed there was very little danger As a matter of fact, there are few men who have had a large experience in the early treatment of gonorrheal cases of this form That is why I introduced the cases I did in which I have had a surprising experience

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PROPHYLAXIS OF DISEASES OF WOMEN

Presented to the Section on Obstetrics and Diseases of Women, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY DAVID W BASHAM, M D
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Since the science of hygiene is justly allowed to occupy so important a place in the literature of general medicine, I deem it a duty incumbent upon those engaged in gynecologic and obstetric practice to endeavor to elevate the prophylaxis of the diseases of women to the same exalted plane

Generally the average gynecologic essayist, disdaining to concern himself with the ordinary affairs upon which our clients so much need good and wise counsel, endeavors to elucidate his own or some fellow practitioner's method of extirpating the internal genitalia, or some part thereof, from the female pelvis All of this is laudable, because it serves a beneficent purpose as concerns both mankind and the profession of medicine But if it be noble and great to emancipate the human body from disease and suffering by the dexterous use of the scalpel, scissors, and sterilized catgut sutures, how much better is the rendering of these appurtenances of our art unnecessary This paper is not an argument for conservatism in the treatment of existing pathologic conditions, but a simple effort to disseminate the doctrines of preventive therapeusis As often as I am called upon to disembarrass a patient of important organs rendered useless and intolerable through pathologic metamorphoses, the result, perhaps, of a non-aseptic accouchment, I promise myself to labor with renewed assiduity to inculcate the tenets of preventive medicine, which shall be the medicine of the future

Owing to the anatomic construction of woman, the female pelvic organs are far more vulnerable to the influence of pathogenic agents than are the analogous organs in the opposite sex, because in the former a readier and more commodious medium of communication exists between the cavities of the genital tract and the atmospheric world The same anatomic design conduces to the easy genesis of pathogenic micro-organisms within the series of cavities constituting the genital system This arrangement, which is indispensable to the perfect operation of the viviparous plan of reproduction, which provides that after having attained a certain stage of development within the maternal body, the fetus shall be forcibly extruded into the world, unavoidably entails a greater or less degree of traumatism to all the structures concerned These facts serve to explain why the pelvic organs in woman are so much more frequently the seat of pathologic changes than the same organs in man All of the elements necessary to the process of infection are present in the act of childbirth, and also in a less accentuated form in many other acts inseparable from the functions peculiar to woman The things requisite in the process of infection are violence, to produce a breach in the tissues sufficient to admit of the ingress into the circulation of germs or putrid material, and the existence of certain conditions which facilitate the introduction of such germs or putrid material into the cavities of the system of hollow organs known as the genital tract, and where the breaches into the circulation exist, and where also are found fluids and coaguli to serve as media and nidus wherein rapid multiplication takes place The question of prophylaxis of diseases of the female pelvic organs then resolves itself into two principal propositions the first of which consists in the minimizing of traumatism to the genital mucosæ, and the second is the preclusion of the introduction of disease micro organisms from the extraneous world into the hollow organs constituting the genital system

It will be seen then that the major part of gynecologic prophylaxis rests in the degree of perfection with which the art of obstetrics is carried into practice It is a fact beyond refutation that an enormous proportion of all gynecologic affections have their origin in the parturient act, and the week in bed that follows Endometritis, salpingitis, ovaritis, cystitis, and nephroptosis, are some of the conditions which are *often simply sequelæ* to the act of parturition and the puerperal month

So much depends upon the work of him who essays to minister to the needs of woman in the hour of travail, that it is not easy to overestimate the importance of the offices of the accoucheur in the matter of diminishing the frequency of pelvic diseases in the female The scientific obstetrician has well accomplished his duties, so that it is no longer a question of profounder knowledge, but simply a matter of the better application of the principles already well known to the profession Of all the members of the medical fraternity who should act with an eye to the future condition of his client, there are none upon whom this obligation should rest with greater weight than the obstetrician The prompt application of surgical principles to the treatment of traumæ received during childbirth may avert many of the troublesome sequelæ to that act which often terminate in serious pathologic changes, and often demand radical measures for relief It is not at all improbable that uterine cancer is frequently the result of a neglected cervical laceration The immediate restitution of a lacerated perineum may avert the occurrence of a case of prolapsus which would require hysteropexy, or even a case of procidentia uteri with chronic endometritis and hypertrophy of the organ, which might demand hysterectomy to effect a cure Thus it is throughout the entire catalogue of minor accidents and the corresponding surgical procedures for their relief

There are some grave conditions which owe their inception to accidents occurring during the age of pubescence, or during the first years of menstrual life It is here that the general practitioner might find an opportunity to enhance his usefulness at the expense of the neurologist It is reasonable to believe that many cases of aberration of nerve function might be prevented by well-directed medical attention during the early years of menstrual life

In sum the prophylaxis of the diseases peculiar to woman may be embodied in a more perfect application of the principles of obstetrics in actual practice a profounder understanding of the accidents occurring so frequently at the age of pubescence, and finally greater attention to the hygienic regulations which should govern daily life

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Radiographs of Encapsulated Trichinæ – Radiographs of encapsulated trichinæ in the muscle of a cadaver have been secured at Würzburg the birthplace of the Röntgen ray

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GONORRHEA AS A FACTOR IN PUERPERAL FEVER

Presented in the Section on Obstetrics and Diseases of Women at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

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The methods which have revolutionized modern surgery as the direct results of the teachings of Lister have been more or less efficiently carried out in the practice of modern obstetrics The new science of bacteriology and the accumulating evidences of the pathogenic nature and far-reaching effects of certain micro organisms have invested the subject of the prophylactic, aseptic and antiseptic protection of the parturient with increasing interest and importance Notwithstanding the advancements along these lines, the query arises why is there not greater freedom from septic complications and fatal issues in the service of those who carry out the most approved measures in the practice of midwifery? In other words, are there not frequently sources of danger within the mother herself, antedating childbed, which ordinary methods fail to avert? I desire to emphasize the importance of these vital questions

Since the discovery of the gonococcus which Neisser announced as the specific cause of gonorrhea, in 1879, two important discoveries have placed his claims beyond all cavil, first, the Gram method of staining, by which this germ is differentiated from all other diplococci, and, second, the improved culture methods of Bumm and Wertheim (1889-1891), by which its true specific character was established by the four immutable laws of Koch It is now possible to scientifically demonstrate the multiple roll of this ubiquitous germ in its capacity for pathogenic mischief A glance at the biology of the gonococcus will help us better to comprehend its possibilities for doing harm in the puerperium Its habitat is the mucosa and glands of the genito-urinary organs of the human race It is not known to exist anywhere in nature apart from the human body It perishes quickly when removed from its host It is cultivated with difficulty on nutrient media of human blood serum or urine It dies very soon in water, loses its virulency when thoroughly dried, and is easily destroyed by ordinary antiseptics Notwithstanding all this the germ is most persistent in its normal surroundings It is able to exist in various degrees of chronicity for indefinite periods of months or years, retaining its power to invade new territory and regain its old-time activity under favoring circumstances It requires no solution of continuity or lesion of any nature to prepare the soil for infection It is able to penetrate readily the epithelial, follicular and glandular structures of the mucous surfaces everywhere Nor does it stop here It also penetrates the submucosa and adjoining muscular walls It makes its destructive pilgrimage through lymph channels into the circulation itself and sets up dangerous lesions in distant organs like the heart, brain and articulations This power of extending its field of operation by penetrating almost every tissue of the body together with its persistence in favorite localities while awaiting its opportunities constitute its most dangerous properties as a pathogenic organism in childbirth

Again it is essentially an irritant pu [illegible] germ advent upon uninfected mucosa is quickly followed by copious, purulent discharges in which at first no other pathogenic germs are found. It is not self-limited and hence immunity is never established, although degrees of tolerance in the form of chronic pathologic changes in members may exist for indefinite periods. According to Finger and others, the nature of the epithelium of the mucosa has an important bearing on the behavior of the gonococcus. The germ remains superficial on mucosa covered with squamous epithelium, but it quickly penetrates into connective tissue under cylindrical epithelium. He found that injections of pure cultures into the peritoneum and joints of animals produced rapid and acute inflammations, while injections of filtered culture fluids gave negative results, showing that the pathogenic effects were caused by the living germ itself and not by its products. Hence we may readily understand its ability to produce abscesses wherever swollen ducts, canals or tubes hinder free drainage or where trauma has given it entrance to the systemic circulation. Bujwid has reported the case of a gonorrhoic male who was seized with a chill two days after catheterization. These chills were repeated several times in the next ten days, followed by intramuscular abscesses in various parts of the body, the pus from which afforded pure cultures of the gonococcus, thus, showing its ability to produce pyemic conditions. Not only is it a source of danger in itself, but its presence prepares a suitable field for the culture of other germs, even more dangerous in the presence of the slight or severe trauma of parturition. The lowered vitality of infiltrated mucous and submucous structures, the hypersecretion of muco pus, the débris of swollen and exfoliated epithelium offer a most favorable soil for mixed infection. The gonococcus will share its possessions in apparent harmony with other pathogenic germs, or at an indefinite period, quit the claim in their favor. We believe these facts are overlooked in estimating the rôle played by the gonococcus in childbed fever. We have developed slides from a case of chronic gleet in a patient suffering from arthritis of the knee, two years after his acute infection, in which the pus cells contained gonococci, while the field surrounding these cells was filled with staphylococci. We have found the same microscopic showing in discharges taken directly from the cervix uteri of a patient suffering from her first attack of salpingitis, four years after her primary infection by her husband and three years after her only confinement, at which time she suffered from febrile arthritis of the shoulder, her babe having gonorrheal ophthalmia at the same time. Pyosalpynx and a laparotomy are probabilities in her future history. It is to be hoped she is now permanently sterile. In the gonorrhoic female sterility is a conservative process, a blessing in disguise.

Having reviewed some of the most important characteristics in the life history of the gonococcus, let us examine the opportunities it has for complicating and endangering the puerperal state. It has been variously estimated that from 10 to 30 per cent. of all women became gonorrhoic. I believe the latter figure is nearer the truth. This is better understood when we consider that the majority of males become infected sooner or later, and that the greater portion of them remain in uncured chronic and latent stages for indefinite periods, during which time they are capable of imparting the disease. Indeed, the proportion of both sexes who never are completely cured is much larger than is commonly supposed. It is doubtful if chronic or residual gonorrhea in the female, by reason of its inaccessible location, is ever completely cured during her child-bearing years. If the disease were confined to the vaginal mucosa, lined as it is with squamous epithelium, it would remain superficial, as Finger has pointed out, and would be accessible to antiseptic treatment. In its urethral and vulvar locations it could be readily dislodged also, but we must remember its predilection for the ciliated, columnar epithelium of the endocervix, endometrium and fallopian tubes, and its rapid penetration of this kind of epithelium to deeper structures. Fournier's statistics show that one-fifth of all women contracting gonorrhea develop salpingitis. If this be double, sterility is usually entailed (Terillon). The radical cure of such a state is an almost hopeless problem.

Wertheim, discussing endometritis before the German Gynecological Society said, "Next to the urethra, the uterus is the favorite seat of gonorrhoic infection. It is directly infected and may be confined to that organ. It exists as an interstitial endometritis. Krönig found gonococci in many examinations of the lochia along with other pathogenic micrococci, especially strepto- and staphylococci." He concludes that gonorrhea extends to the endometrium during the puerperium, and may give rise to fever without a trace of mixed infection.

At the puerperium the disease may be recent, in the form of acute or subacute urethritis or vulvovaginitis, or it may have existed in chronic forms a long time in such favorite localities as the glands of Bartholini, in the columnar epithelium and glands of the cervix, or having preceded conception, there may be a chronic gonorrheal salpingitis or unilateral pyosalpynx. Fehling observes that gonorrhoic endometritis and perimetritis in pregnancy is now an established fact, and urges careful treatment of women who have been infected during or after conception, to prevent symptoms of a still graver character. Max Madluer demonstrated the ability of the gonococcus to pass from the endometrium into the uterine muscles and set up inflammatory processes. This, he says, is especially the case in the puerperium, and may result in abscess formation. Infection of the peritoneum through the uterine wall is a possibility, and, he believes, explains the fact of perimetritis without implication of the adnexa.

Fehling says absorptive fever is not rare in patients suffering from gonorrhea during pregnancy, and pus-tubes are often noted. In such a state of affairs parturition opens up many channels for infection and constitutional symptoms of varying degrees of sepsis. A ruptured perineum, a vaginal erosion, a lacerated cervix, a denuded placental site, are so many open gates for the invading gonococcus or for other dangerous germs, which might not have been present but for a soil rendered favorable by gonorrhea. If pyosalpinx exists, the condition is fraught with the gravest possible dangers, which human skill may be powerless to avert. It is evident, then, that many mothers run the gauntlet of hidden, and oftimes unsuspected, foes during confinement on account of gonorrhea alone.

DIAGNOSTIC POINTS

If possible, an early examination should be made of every prospective mother, especially if she be a primipara, for the reason that this class is in the greatest danger, because of more recent infection and less constitutional tolerance of the germ 1 Any muco-purulent discharge from urethral, vaginal or cervical orifices should be regarded with suspicion and should be submitted to microscopic proof and treated according to findings 2 The existence of a vulvar abscess or the discharge of pus from a Bartholinian gland on pressure is presumptive evidence of gonorrhea 3 The presence of gonorrhoic ophthalmia in the new-born is positive proof of maternal infection If the mother be a primipara, she will be extremely fortunate if she escapes puerperal complications 4 The presence of arthritis with pyrexia during gestation or during the puerperium makes the diagnosis of gonorrheal infection highly probable Gonococci have been found frequently in inflamed joints as the active cause of irritation, swelling, pain and fever, which are the expressions of a systemic infection, erroneously styled gonorrheal rheumatism I have seen acute-febrile arthritis in the seventh month of pregnancy, which was not correctly interpreted until it occurred in childbed, without any pelvic symptoms whatever Gonorrheal ophthalmia in the babe, however, cleared up the nature of the ante- and post partum arthritis of the mother

In a series of cases reported to this section by the reader at the Atlanta meeting of 1896, there were three fatalities after perfectly normal labor in primipara, in which gonorrhea was a clinical feature during pregnancy In one of these sepsis developed twenty-four hours after delivery, from the discharge of an extremely fetid tubal abscess into the uterus when the detached-secondines had freed the uterine orifice, resulting in general peritonitis and death on the seventh day The second died from recurring pelvic peritonitis and exhaustion one month after confinement The third, with no pelvic symptoms whatever, developed multiple arthritis with hyperpyrexia and acute systemic infection, which terminated her life on the twenty-seventh day, possibly from ulcerative endocarditis Of the non-fatal cases, the mothers all had either acute metritis or arthritis, or both, with chills and pyrexia, and all of the babes had ophthalmia microscopically shown to be gonorrhoic

TREATMENT

1 *General prophylaxis*—Prophylactic measures are of the greatest importance These may be 1 Educational Our youths should be instructed at the proper age in our public schools concerning sexual physiology, sexual hygiene and sexual morals 2 Executive, through the sanitary supervision of all classes and individuals liable to spread gonorrhoic infection 3 By legislative enactments, regulating the marriage license We believe that no candidate for marriage should receive a license who has not filed a certificate of health from a competent medical official showing freedom from all contagious diseases

2 *Specific prophylaxis*—Once a female is known to be infected with gonorrhea, her treatment should be conducted even more persistently and more carefully than in the male, for the infection more readily passes to inaccessible locations and the remote effects are far more subversive of health and dangerous to life itself It is unfortunate for women that gonorrhea is so often overlooked in their sex in its acute and subacute stages Undoubtedly if it were recognized and some sort of antiseptic treatment instituted as early and universally as in the male sex many disasters would be averted The plan of treatment depends upon location and the stage of the disease So long as it has passed no farther than the urethra vulva and vagina and their special glands drainage and irrigation with solutions of silver or potassium permanganate are effective If the endometrium is involved without tubal infection, curettage and irrigation may cure If the tubes are infected, as evidenced by acute or chronic salpingitis or pyosalpinx and recurring pelvic peritonitis no local treatment can eradicate the disease If, now, infection has taken place at the time of or during the term of gestation, much may be done to avert childbed complications Every pregnant woman should be carefully inspected at least a month preceding child-bed Her physician should know of the sanitary condition of her parturient canal and relevant organs in order that her puerperium may be free from all preventable dangers Inspection of parts and microscopic examination of suspicious secretions from urethra, vulvar glands, vagina or cervix uteri will determine the question of infection Urethral or vaginal irrigation of potassium permanganate solution, 1-2000, drainage, curettage or dissection of infected vulvar glands and topical applications of nitrate of silver solution, 10 per cent to the endo cervix will place a patient in the most favorable condition for her confinement

3 *Child bed treatment*—Ante- and post-partum diagnostic symptoms of gonorrhoic infection have already been given Now, that such a contingency exists, what should be the treatment in child-bed? Vaginal irrigations of sterilized water or antiseptic solutions after normal labor have been generally abandoned by obstetricians, for obvious reasons Labor complicated by pre existing gonorrhoic infection is not a normal state, and I believe justifies the irrigation of the vaginal canal twice daily with warm potassium permanganate solution, 1-2000 The procedure is devoid of danger and may prevent extension to the endometrium appendages and the pelvic peritoneum In the event of symptoms showing endometritis, intra uterine irrigation carefully done with the same solution has given good results and I believe is rational treatment Other external local applications and internal systemic treatment for depletion, sedation and elimination will suggest themselves according to the exigencies of the case In the fulminating forms of puerperal fever, little can be done If these are due in any way to gonorrhea, it is from secondary mixed infections of virulent types made possible through previous gonorrhea Here the antitoxins are on trial with some promise of success

CONCLUSIONS

1 Gonorrhea is a widely disseminated disease, especially persistent and dangerous in females

2 Gonorrhea is directly or indirectly a factor in puerperal sepsis and accountable for a larger percentage of complications and fatalities than commonly supposed

3 Prophylactic measures, general and specific, are most important in averting the septic dangers of childbed

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Antiseptics and Diphtheria Toxins—Salkowski states that guinea pigs survive fatal doses of diphtheria toxin if salicyl aldehyd, carbolic acid or formalin be combined with it The toxin seems to be chemically rather than mechanically affected and the body temperature is evidently a factor in the result —*Munich Med Woch*, June 23 other parts of the intestine, but the longitudinal bands and *colica epiploica* will enable us to identify it readily in almost every instance, and a knowledge of its mesenteric or closer attachment to the parietes will be of material aid In most cases, we should be able to pick it up and be sure of what part we have at once, without even the aid of vision In appendectomy we often find the organ so firmly bound down by adhesions that it is with the utmost difficulty that we can separate them, in fact, often it is quite impossible In these cases, if we can identify the peritoneal layer at any point and gain a start underneath it, we can usually enucleate the organ very rapidly and easily, doing all our separation work between the peritoneum and muscular coat When so done, we can close the peritoneal rent and leave no denuded surface to form other troubles We are again making use of our old plan in dealing with the Fallopian tubes Many times our work will be greatly facilitated if we will first ligate the base of the appendix in two places, cut between ligatures, and start our enucleation process at the base, between the diverging layers of the mesentery I have found this plan of especial help when the appendix tip was buried deeply in the pelvis under dense adhesions passing down over the external iliac artery and in contact with the ureter In surgery of the gall-bladder and ducts, too many surgeons habitually depend on finding the fundus of the gall-bladder as an anatomic starting-point, forgetting that it may be congenitally absent, or the trouble for which the operation is undertaken has produced inflammatory adhesions and possibly buried the fundus and body of an atrophied gall-bladder so completely that he who persists in his search for it as a guide to subsequent manifestations may tear off its attachments to the liver and cause troublesome hemorrhage, and be no nearer than before to a recognition of the cause of the trouble, which is, in all probability, located in the cystic, hepatic, or common duct In such cases, we will gain much time and save ourselves much annoyance by first locating the hepatico-duodenal fold of peritoneum, or grasp in it the common bile duct, hepatic artery and vena porta, with the foramen of Winslow beneath and hepatic and cystic ducts to the right, we can at once determine, in most cases, the location of the difficulty for which the operation was undertaken, if it pertains to the gall circulation, and with much less danger than by way of the fundus

In perineorrhaphy work, too many cases have only a skin support, the normal perineal structures proper being in no sense restored as a supporting organ by the operation intended to relieve various forms of prolapsus, the defect being only hid, the result is altogether disappointing to the patient and surgeon, and brings this much-needed operation into disrepute

In the flap splitting method, in some cases the recto vaginal septum is not located, but the vaginal mucosa only is raised, and when the sutures are introduced they cause strangulation necrosis of the vaginal flap or a large part of it, because it is impossible to get sufficient hold upon so thin a tissue without seriously involving its blood supply in the suture clasp The same danger occurs from a little carelessness in forming the flap on the opposite side, and there is great danger of fecal fistula If, however, the recto-vaginal septum is followed, the separation may be made extensive enough to give any desired result in a new perineum, and no harm will result, if any care be used in suturing I am convinced, however, that the general plan of introducing sutures in the old through-and-through manner to the highest point of separation is a great mistake, and many such sutures will cut deeply and cause prolonged irritation and often a tender perineum

Much better results will be obtained by introducing several layers of buried absorbable sutures, which will make a more perfect approximation of all parts of the deep wound If a through-and through suture is used, I am sure that better results are obtained by using here the same principle that Fowler applies in his 'figure 8" abdominal method, because it secures more perfect approximation of all parts than by the old plan The purse string tendency of the old suture method makes our resulting perineum only one-third to one-half the depth and corresponding strength we originally supposed we would be able to attain

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TOTAL REMOVAL OF STOMACH FOR CARCINOMA OF PYLORUS—RECOVERY

BY G CHILDS MACDONALD, M D (BRUX, HON)
F R C S Edinburgh, Exam M R C S, England Fellow Medico Chirg Society, London Late Resident Surgeon Royal Edinboro Infirmary Lecturer on Surgery, College of Physicians and Surgeons, San Francisco, and Visiting Surgeon, St Mary's Hospital
SAN FRANCISCO CAL

J Patritti, Italian, aged 38 years, occupation, dairyman, admitted to St Mary's Hospital on June 15, 1898, suffering from a tumor of the pyloric end of the stomach The usual symptoms associated with that condition were present, as the patient was unable to speak English but imperfectly, no definite history was obtainable, but so far as we could gather, he had been ill, probably unable to work, for two and one half months prior to entering the institution He stated he never had any previous illness, moreover his immediate relatives were free from cancers or tumors He complained of pain in the epigastric region, paroxysmal in character, vomiting and weakness The physical examination revealed marked general emaciation, a distinct movable tumor in the right hypochondrium, the stomach was dilated and on stimulation of the epigastrium by rubbing could be made to contract violently, attempting to pass its contents on to the duodenum By the clinical picture presented, I concluded the growth must have extended, at least, over a period of six months His weight, unfortunately, was not taken Feeling the hopeless condition of the patient, I decided to remove the whole of the stomach To this he consented He was accordingly brought into the operating room at 9 A M, June 15, 1898 Ether was the anesthetic used, which he took badly, and half the operation was done without any, stimulants having to be administered hypodermically on several occasions

The incision was commenced at the tip of the ensiform cartilage, continued down over the linea alba to half an inch below umbilicus on the right On opening the abdomen the stomach and liver came into view, omentum devoid of fat, there were no adhesions The first part of the duodenum and pylorus were freely movable The great omentum was tied in portions about half an inch from the stomach and cut away to a point midway between the first part of the duodenum and splenic end of the stomach The gastric hepatic was treated in a similar manner, to half way along the lesser curvature, fine catgut was the material used The duodenum was now clamped in two places and the gut divided between the forceps on the distal end were covered with rubber, the cut ends were immediately packed around with gauze to prevent infecting the peritoneum, by this means the pyloric end of the stomach could be drawn out of the abdominal cavity The remaining portions of the gastrohepatic omentum and of the gastro omentum were treated in a similar manner The esophagus, which was elongated and drawn down, was clamped and divided as had been the duodenum, the stomach was then removed It was found the duodenum and esophagus could be brought together with a moderate amount of tension A large sized Murphy button was used to complete the anastamosis, but it was found necessary to use several reinforcing sutures for the anterior two-fifths of the duodeno-esophageal juncture, the material used for this, as likewise the running thread, was silk The abdomen was closed in the usual way From the time the man commenced to take the anesthetic till his removal from the table a period of ninety minutes had elapsed, toward the end he showed a considerable amount of collapse, this continued for four hours, despite hot water bottles, flannels and stimulation by hypodermics of whisky and strychnin Toward the afternoon he rallied, by 7 P M, his condition became again alarming, the pulse ran up to 120, weak, compressible and irregular, in fact, he presented all the symptoms of so-called cardiac failure Enemas of hot coffee, together with hypodermics of whisky and strychnin, were administered without any appreciable effect, hot water was also tried by mouth Sitting by the patient's bed, feeling the failing pulse it struck me the condition presented more the phenomena resulting from inhibition of the pneumogastric and the uncontrolled action of the sympathetic, I therefore administered a hypodermic of 1–100 digitalin The effect was immediate, the pulse dropping to 110 and steadying From now on he continued to improve the digitalin being continued at intervals as required Urine and feces passed voluntarily at 10 30 P M Nutritive enemata were given through the night The following day he was given half an ounce of peptonized milk and whisky by mouth every hour Larger amounts by rectum at similar intervals Respiration 30, temperature 101, pulse 102 June 17, pulse 118, respiration 23, temperature 101 2 Nourishment as before June 18, pulse 106, respiration 18, temperature 100 8 Amount of nourishment doubled, per mouth, but given every two hours, white of egg and beef peptonoids added enemata as before June 19, pulse 82, respiration 18, temperature 99, rectal feeding stopped Chicken broth added, bowels moved June 20, pulse 80, respiration 18, temperature 98 4, egg-nogg added June 21, pulse 82, respiration 18, temperature 98 3, given chicken broth thickened with rice flour, corn-starch and wine jelly bowels moved June 23, wound dressed first time today, had healed by primary union about half of the sutures removed, patient hungry, wants beefsteak July 3, button passed Given California oysters and minced chicken Bowels act once daily, evacuations solid July 10, sat up From this on patient improved rapidly, gaining strength and flesh On July 15, he informed a fellow countryman in the ward, he intended going down town to see a friend and do a little shopping, he slipped out of the ward and was discovered by me at 1 P M, carrying a grip-sack which contained his purchases He was indignant at my putting him on a car and taking him back to St Mary's, saying he "felt good" and was "all right" The grip sack weighed 12 pounds and the man turned the scale at 105 pounds He then made us understand that his usual weight was 135 pounds July 21, patient has not started off on any more excursions, but contents himself with playing poker and walking round the hospital grounds His weight today is 107 pounds

Exterior of stomach, stomach much contracted due to formalin solution being too strong 1 Esophageal end, 2 Duodenum

Interior of stomach showing growth 1 Pylorus

Photograph of patient taken twenty five days after operation

I have to thank Drs Frazer, Kingwell, McMonagal and Bailey for their kind assistance during the operation, also Dr Keenan, our resident on the third floor, for the great interest and trouble he took in the after-treatment, Sister Mary Carmel for the individual and close attention she gave to the nursing There is no doubt that I have to thank Dr Keenan and Sister Mary Carmel for the successful termination of this very interesting and instructive case

July 28, patient left the hospital and returned home and is feeling well and in every way satisfactory

SELECTION

Repulsed by Fever—It is fortunate that the headlong valor of the American forced the surrender of Santiago But for the sheer fighting which was won against all odds, the Santiago campaign would now be ending in ignoble failure The army which Spanish arms could not defeat is repulsed by fever and must come North The result was foreseen by every one aware of the only conditions under which white men can wage war in the tropics But countries, like men, never really learn by the experience of others The English Army has learned how to conduct a campaign in regions like Cuba and in time the United States will Until we are willing to learn, we shall have the experience of Santiago White men, the English have learned, can not campaign in the wet season in the tropics in the open unless they have an army of attendants The English expedition which went to Abyssinia just thirty years ago under Lord Napier of Magdala, had 16,000 English soldiers and 32,000 native attendants to take care of them All English tropical expeditions are organized after this fashion Every regiment has its watermen and its tent men, its carriers and its cooks A white man in the tropics has a store of cold climate force, vigor, energy and bravery which makes it easy for him to sweep through any tropical fighting line he meets But he cannot fight the climate He can not endure rain by day or the damp ground by night Fresh from the North, for three or four weeks he will endure these things with a glorious disregard of experience It is as Franklin said, "a dear school, but fools will learn in no other," After three weeks of exposure fever taps the incredulous Northerner on the head and he wakes some morning to find he is too ill to move As General Ames says "A full list of the sick would be a copy of the roster of every regiment The only mercy is that there are only 16,000 men at Santiago who have won a great victory and brought peace instead of 60,000 men about the lines of Havana, lines too strong for assault and needing "regular operations" and weeks of fever stricken delay The lesson is clear For the work of occupying and garrisoning Cuba, the United States must organize an army on the British Anglo Indian plan The core of the army must be "immune" whites from the South and negro regiments No men unacclimated by some experience are ever sent in the British Army to the tropics and men under 25 are excluded altogether from such service But even regiments thus constituted can not live in the physical conditions usual in campaigning in the temperate zone The fighting man in the tropics must be taken care of A force of laborers, all tropical, must be hired Instead of feeding the idle at Santiago on landing, not an able bodied man among the natives should have been given a ration unless he was willing to work, and strict military discipline should have ended the fatal and inexcusable nonsense of precious Northern fighting material courting fever and inviting death by digging and pack carrying when idle Cubans were standing around eating United States rations If this course had been followed, while fever would have come it would not have demoralized and broken the strength and fighting force of brave men as it has at Santiago and assuredly will at Manila The prediction is easy to make, it is based on two centuries of Anglo Indian experience—the instant General Merritt's force moves from its lines and begins active operations in the field, where the men have to get wet, unless they are provided with a plentiful supply of coolies to fetch and carry and spare the white men, tropical fever will mow a broad swath through the strong ranks and a quarter will never come back These are words of truth and soberness Every medical man and every man of tropical experience or knowledge knew that the Santiago campaign was a terrible risk The nation deliberately matched with fever and death for victory and won in the grim game by overmastering bravery But for white men nothing foils tropical fever except close personal care If a white man in the tropics has to dig and get wet and do common labor he collapses in all cases and dies in about one half the instances The United States has to occupy and, for some time, to garrison Cuba—Porto Rico is higher and healthier Unless there is to be a terrible waste of life, the Anglo Indian plan of minutely caring for white men in the tropics must be adopted in Cuba Any other plan is sure to end like the present collapse at Santiago due to climate, doubtless aggravated by faulty staff administration, but primarily due to climate—*Press*, Philadelphia, August 5

The history of the Panama Canal where the French Engineers had plenty of well equipped hospitals, and an abundance of skilled attendants, shows that the fearful sickness roll must be due to inherent conditions of the tropics

PRACTICAL NOTES

Inherited Tendency to Hemophilia—Dr Sadler, in the *Birmingham Medical Review*, reports a family having marked hemorrhagic tendency in two generations The father of the family died in 1895 of senile decay, the widowed mother is 60 years of age and in fair health She has had sixteen children, three of whom died from infantile complaints in the first few days of life The remainder comprises eight boys and five girls, the eldest of whom (a boy) at the age of 3 years, when apparently in perfect health, fell and bit off the tip of his tongue, the bleeding could not be stopped, and death occurred on the fourth day The next two sons and their children have not shown any tendency to the diathesis, nor has the fourth son The fifth son died at the age of three months, from "sun stroke" The sixth son was noticed to become bruised very easily at the time of his first attempts to walk When he was nearly 7 years of age the cutting of a tooth led to hemorrhage which proved fatal after a week's duration The seventh son, now aged 12 years, has never bled nor bruised The eighth boy early developed the tendency to bruise, but it is diminishing year by year He has had several troublesome attacks of epistaxis The joint affection of hemophilia first showed itself in him at the age of 3 years He has had repeated attacks since, and they always begin suddenly in the night The well known fact that the girls of the family do not themselves exhibit the hemorrhagic tendency, but that they transmit to their male children, appears in the present instance Both the first and second daughters have always been perfectly healthy, they are married, and have each had two boys three of these children are alive and present marked hemorrhagic symptoms The remaining one died at the age of 3 years from a combination of epistaxis with bleeding from the ears and mouth—London *Lancet*

Removal of a Bullet from the Body of the Axis after its Localization by Skiagraphy—In the *Intercolonial Medical Journal of Australasia*, Dr E Bird has published a case of this novel operation, which certainly could never have been carried out without the aid of skiagraphy The operation was performed more than three months after the injury, at the earnest solicitation of the patient, who suffered a good deal from deep cervical pains on the left side and stiffness of the neck A three inch incision was made along the posterior border of the sternomastoid muscle in order to gain access to the lateral aspect of the second and third cervical vertebræ The dissection was continued until the descending fibers of the first bundle of the levator anguli scapulæ were well defined in their upper two inches The great vessels and nerves were held forward and search made for the bullet It could be neither seen nor felt, but the transverse process of the axis was in advance of the next On holding the pharynx forward the dark bullet was seen buried in the body of the axis Bone had to be snipped away before it could be extracted, recovery followed

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

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Foreign Postage	2 00
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SATURDAY, SEPTEMBER 3, 1898

THE MUSTERING OUT OF THE VOLUNTEERS

When volunteer troops are to be mustered into the service of the United States, the one point of interest is the physical examination by the medical officer or medical examining board If the physical condition of the candidate for military service is such as to enable him to pass this examination successfully, the remainder of the process is easily accomplished, but in the mustering out of volunteer troops there is necessarily more of what is usually called red tape by those whose cerebral masses are incompetent to understand the details needful to bring a complicated piece of business to a successful conclusion in the simplest way The debtor and creditor side of the sheet between each officer and man of a command and the United States Government must have each entry accurately specified, so that when a last payment is made by the paymaster, a balance is effected and the contract between the soldier and the Government is dissolved Officers responsible for property have to turn it over to designated officers, obtaining in return from the chief of that particular supply department a certificate of non-indebtedness and enlisted men have to turn over arms and equipments in good condition The greatest care has to be taken in making up these muster-out rolls When finished they are submitted to a board of officers who compare their statements with the statements on previous muster rolls, and clothing account-books to ensure their absolute correctness in every respect The command is then sent to its state or regimental rendezvous to receive its final payments and be mustered out But here a new and very valuable piece of red tape has been introduced by the recent instructions to mustering officers issued from the office of the Adjutant-General of the Army This new departure is a piece of wisdom inculcated by the experience of our Bureau of Pensions since the close of the civil war In the language of the instructions just cited "To facilitate the settlement of pension claims that may be made on account of disability incurred in the United States service and to protect the rights of persons who may be entitled to the benefits of the pension laws as well as to guard the interests of the Government, it is ordered that a thorough physical examination be made of all officers and enlisted men of volunteers, except general officers and officers of the general staff, immediately prior to their muster-out of service or discharge " Each officer and enlisted man has to sign a declaration as to his physical condition, which is then verified by examination by a medical officer of the regular army whenever the services of such an officer are available, and when not, then by a medical officer of volunteers not belonging to the organization of which the officers and men to be mustered out are members If any person under examination claims to have a disability of which the medical officer can find no evidence, or to have a disability incurred in the line of duty, whereas the medical officer is of opinion that it was not so incurred, a board of three medical officers will be convened by the Adjutant-General to make a full report on the case, and if the members of the board fail to agree, a separate minority report will be made by the dissenting member The physical condition of every soldier at the time of his muster-out will thus be a matter of record, and the work of the Pension Bureau in the future will be materially reduced and simplified Had such an examination been made at the close of the civil war, the list of disabled pensioners would now be much smaller than it is by the exclusion of all those cases in which the evidence was defective and the benefit of the doubt given to the soldier

THE DUST CONVEYANCE OF TYPHOID FEVER

The spread of typhoid fever in the various military camps during the present war has become so serious a matter as to call for a most thorough investigation. it certainly was not anticipated and its occurrence will have to be accounted for It is naturally to be assumed that the camp sites were, for the most part, selected with reasonable care, and with at least the ordinary amount of sanitary precaution usual in such selections, under the oversight and with the consent of the Army Medical Staff There may have been exceptions, but this certainly should have been the rule Allowing fully for the careless habits of volunteers, the spread of typhoid seems t[illegible]ve be[illegible] excessive, and s[illegible] then th borne contamination would seem necessary to account for it It is be presupposed that, with the oversight of medical authorities and the generally diffused information in regard to the subject, any direct contamination of the sources of drinking water would have been avoided so far as possible, and if other methods of diffusion of typhoid can be invoked it may simplify the investigation materially, and we look with interest for the report of the very competent board selected by the Surgeon-General[1]

In a paper read before the British Medical Association, July 30, in its Section on State Medicine, Dr JOHN ROBERTSON, medical health officer of Sheffield, on "Soil as a Factor in the Spread of Certain Diseases," maintains that, while the water carriage of typhoid infection is important, the attention given to it has obscured the relatively still more important subject of dust- or filth-borne typhoid He has studied the subject carefully and finds that in over 80 per cent of urban cases the theory of water or milk infection will not suffice to account for the occurrence of the disease He finds also that the typhoid fever dies out quickly in grass covered areas, that when planted beneath the surface it has a tendency to extend upward rather than downward, and that it is capable of living and multiplying in the ordinary surface soil The transference of the germs from the soil to man is made, he feels assured, under certain conditions, chiefly through the medium of aerially carried dust

If we consider fully the conditions of some of our military camps, situated in a warm southern climate, where northern grasses can hardly be said to abound, and where such grass-covered areas as existed would soon be trampled out, occupied by inexperienced volunteer troops who naturally are ignorant and reckless as regards sanitary matters, and whose officers have their ideas of control and precaution in these respects yet to be formed, it is not difficult to suppose conditions that will fully account for the typhoid epidemic that has apparently existed At least this is true if we accept Dr ROBERTSON's conclusions, and they seem reasonable

Another point which he makes that is worthy of notice here, is the influence of ground-water, which had been already noticed by VON PETTENKOFER Dr ROBERTSON finds that typhoid is more liable to be endemic in regions where the ground-water is near the surface This, in connection with unsanitary local usages, such as are likely to prevail in camps, might have, it would seem, also an important influence With a surface soil impregnated with typhoid germs working toward the surface, and with grass wanting or trampled out, we have the most favorable conditions for the aerial transmission of disease and the winds, which should be a purifying ventilation, may thus become conveyers of pestilence

In those cases where the camps are supplied from artesian wells, the question of the height of the ground water can be of no possible consequence as regards direct infection by drinking water, but it might still have its influence as regards infection by the medium of dust

The character of soils in relation to disease is certainly an important subject, and one that has a special significance in a point of view of military sanitation In an active campaign in respect to fixed posts, where permanent sanitary conditions can be secured, it may be of less importance than in the case of temporary encampments for organization, like those of Chickamauga or Tampa, but in such the attention given it can hardly be overdone It is a possible thing that some phases of this particular question have been too much overlooked in our recent military operations In any case, the question of the propagation and carriage of the infection of such diseases as typhoid by the agency of the soil is one that should receive attention

THE SEVENTH ARMY CORPS AT JACKSONVILLE, FLORIDA

At this time when we hear so much of the prevalence of typhoid fever in the camps of our volunteer troops all over the land, it is gratifying to find satisfactory reports coming in from some quarters The camps at Jacksonville, Fla, are said to be in excellent condition, with few cases of typhoid in the division hospitals, and all these imported cases The water supply is from artesian wells, 800 to 1000 feet deep It is saturated when fresh with sulphuretted hydrogen gas, which speedily escapes on exposure to the air The hospitals are well provided with everything required, and the three division ambulance companies and the reserve ambulance company are thoroughly organized, fully equipped and in good running order The personnel of the hospital corps consists of 75 medical officers, 75 hospital stewards, 30 acting hospital stewards and 550 privates Lieutenant-Colonel L M MAUS, is Chief Surgeon of this Corps

RETINAL HEMORRHAGE

With the passing of the ophthalmoscope from the exclusive use of the oculist, the cases and causes of hemorrhage into the retina have greatly multiplied The underlying etiologic factors have become of interest to all, regardless of specialism, for the affection may occur in the practice of the surgeon and gynecologist as well as in that of the oculist and the devotee to internal medicine It may come without warning and indeed without apparent sufficient justification, or cautions in the way of constitutional disease may have existed for years It is no respector of age, nor are either of the sexes favored to any extent, for an increase on the one hand due to obstetric and gynecologic causes is equalized on the other by the greater prevalence of arteriosclerosis and injuries among males In size it may be barely discernible or may involve the retina in its entirety There may be but one spot, or the hemorrhages may be so numerous as to leave little more than spaces between them to show that they are separate and distinct Multiple hemorrhages may involve the periphera alone, may surround the optic disc, or invade the region of the macula lutea It will be remembered in the anatomy of the retina that the larger vessels lie in the layer of nerve fibers, while the capillary vessels are contained for the most part in the layer of ganglionic cells and in the inner molecular layer It follows from this that hemorrhage into the nerve-fiber layer appears superficial (to the ophthalmoscope), large, and as a rule striated, from the peculiar and characteristic course of the vessels in this area Occasionally the hemorrhage may be so near the surface and in such quantity as to rupture through the internal limiting membrane and involve the vitreous The age of the hemorrhage influences its color Fresh hemorrhages are of a deep red in comparison with the rest of the field, when older, evidences of decolorization are present, sometimes irregularly placed, more often around the periphera, forming a complete whitish investment Rarely the color may be entirely lost, nothing but a white patch remaining Whitish spots dotted here and there with masses of black pigment are not infrequently the only remnants of an extensive hemorrhage

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[1] This board consists of Surgeon Walter Reed, U S A and Surgeons Shakespeare and Victor C Vaughan U S Volunteers

Leaving for a time the consideration of trauma in the production of retinal hemorrhage, the remaining cases can be traced to the circulatory system, either the blood itself or the vessels A most common cause is the rupture of a blood-vessel weakened in some way by disease, either by the formation of miliary aneurysms, as in syphilis, or by the production of arteriosclerosis The pipe-stem artery, no matter what the cause of its presence, be it Bright's disease, syphilis, chronic lead poisoning, alcoholism or what not, is always a source of danger and the retina which can offer but slight protection to the vessels contained within its various layers, is often a seat of rupture Not only in the slow, chronic, interstitial variety does Bright's disease bring about hemorrhage, but in that acute form known as hemorrhagic nephritis hemorrhages may occur There is one point of difference in the chronic disease the hemorrhages are superficial and, following the course of the vessels, are striated, forming the well-known "flame-shaped hemorrhages," while in the acute variety the hemorrhagic spots are large and irregular

Anything preventing the easy exit of blood from the globe, may, by overfilling the vessels behind, cause their rupture, especially if such an obstruction [illegible] been of long duration Thus local diseases of the ey as tumors, retinitis from whatever cause, glaucoma from whatever cause, myopia of high degree, thrombosis and embolism especially when involving the central artery of the retina, may be the underlying factor, as well as obstructive heart disease, especially mitral lung disease as chronic interstitial pneumonitis, tumors, or any other cause preventing a free flow of blood through the lungs While glaucoma itself may act as an exciting cause, it must be confessed that hemorrhage is more apt to follow a sudden diminution in the ivory hardness of the globe, in other words with the sudden lessening of the intra-ocular tension, as in an iridectomy for glaucoma, the support given the retinal vessels transmitted through the vitreous, is rapidly withdrawn, and rupture of these vessels readily takes place, particularly if arteriosclerotic changes have supervened

It is, however, in the diseases in which the blood itself has undergone changes that the larger proportion of cases occur These changes may be hydremic in character or result from the presence of deleterious, poisonous substances, but whatever the cause, the nutrition of the blood-vessels suffers, small areas of fatty degeneration form, and but slight traumatic causes may bring about rupture Such changes in the nutrition occur in constitutional affections, where fatty degenerative effects are common, diabetes, scurvy, septicemia, pyemia, purpura and in the acute poisonings where several days lapse before the fatal termination, as by phosphorus The blood diseases proper are complicated by hemorrhage into the retina It is not too much to say that in a majority of the cases of leukemia and pernicious anemia, retinal hemorrhages will be found, that are usually multiple in these diseases, often large, and as a rule irregular in outline Chlorosis and the simple anemias may all afford a complication of a similar nature and such cases are not infrequently mistaken for pernicious anemia

The affection is of interest to the gynecologist in that occasionally in amenorrhea, sudden blindness supervenes about the time of menstruation, were such a function going on, ophthalmoscopic examination reveals retinal hemorrhage without apparent cause This is then explained as an example of vicarious menstruation, and as in several reported cases of amenorrhea, fresh hemorrhages have occurred with each monthly interval, that explanation is probably correct in obstetric practice, retinal hemorrhages sometimes occur during the pregnancy, without apparent cause, though they are thought to be due to some change in the blood itself During delivery, efforts at expulsion producing cerebral congestion in a perhaps already weakened vessel, account for not a few cases New-born infants are especially susceptible to this trouble, but, rem [illegible] com- absorpt [illegible] involve the globe itself, as in a penetrating stab wound or a blow upon the ball without rupture, or an injury in the neighborhood, as a fracture of the base of the skull may occasion the same result The operation of iridectomy has this troublesome affection for one of its most dangerous complications, especially when the eye is glaucomatous and the patient well advanced in life When all is done and said, however, there still remains a fair proportion of cases in which no cause can be determined, the individual being in apparently perfect health

CLINICAL TEACHING

An inevitable change that must come in medical teaching is an extreme predominance of clinical and laboratory teaching over the didactic lecture The student can learn from lectures by able men, and much is unqestionably impressed upon the student's mind in this way alone, but aside from the practical experience of the lecturer and certain details of application which he can give, the student learns nothing that he can not gain from his text-book on the subject Furthermore, he loses as a rule a large part of the lecture by attempting to take notes, and no mind possesses the phenomenal ability to remember without notes a detailed series of lectures on a single subject, to say nothing of an attempt to retain lectures on many subjects At the end of one hour this student has a mass of notes, that are bad, as a rule, and an indefinite idea of the subject In clinical teaching the professor, again a man of experience in details, is in the presence of an actual case of the disease under description The disease is presented to the student as he will meet it in practice and his picture must be a more complete and lasting one than any that could be formed from a didactic lecture The value of clinical methods of teaching would seem an established fact and any argument in favor of it unnecessary, yet it does seem that the faculties of various colleges need to be reminded that their curriculum insists upon attendance at lectures and leaves the clinics to the option of the student The option regularly results in the cutting of clinics, or it results in his choice of the gynecologic clinic where his erotic desires are stimulated Furthermore, they need to be reminded that he is required to attend surgical clinics at some large hospital, where he wastes his time by observing an operation he will never perform or by being so far distant that he loses the detail In any out-patient department there are cases of surgery, medicine, skin diseases, etc, that he may handle, question, diagnose and, what is very important, follow to the termination of their illness These are the cases that will develop in him a distinctly medical mind and a clinical eye for observation By far too many students leave college today with the exact means of diagnosis impressed upon them to the exclusion of clinical symptomatology and unless furnished with the facilities for the Widal test are totally incapable of making a diagnosis of typhoid It seems imperative that such a condition should be changed and the out patient clinical work be required, if not made predominant, in his course A satisfactory examination in physical diagnosis and clinical treatment should be as necessary for a degree as a satisfactory paper in medicine or surgery The college must assume that the majority of its students will enter practice without hospital training and this means that he begins his professional career heavily handicapped by having no clinical pictures of disease, and especially handicapped when it is remembered that in the American perception and memory, sight represents four and hearing one

THE PURIFICATION OF SEWAGE BY BACTERIOLOGIC METHODS

The London County Council has lately undertaken a study of sewage and its purification by bacteriologic methods Experiments on the changes in crude London sewage by its filtration through coke are to be conducted at the outfall at Crossness Pending the construction of the filter and the completion of other arrangements, Dr A C HOUSTON, the bacteriologist who has been assigned by the Council to co operate in these investigations, has made a careful bacteriologic study of the raw sewage, preparatory to the special inquiry into the changes brought about by the micro organisms in the filterbeds which are designed for its purification The results of Dr HOUSTON'S work have been published by the Council as the first of a series of reports on the "Filtration of Sewage" The work was done in the Public Health Laboratory of St Bartholomew's Hospital, and thanks are accorded to Dr KLEIN "for advice and help of the greatest value" Samples were collected in sterilized glass-stoppered bottles, and cultivations were made on the day of collection Gelatine plates were used in determining the total number of bacteria The rapid liquefaction of the gelatine produced by the liquefying bacteria in sewage was found to be a decided disadvantage, but with a suitably diluted sewage and with observations made from day to day, it was not difficult to obtain plates with colonies sufficiently advanced in their growth and sufficiently numerous to allow of their being counted with accuracy, even when rapidly liquefying species were present From 0 1 to 1 0 c c of a liquid consisting of crude sewage diluted with 10,000 times its volume of sterile water was used in the cultivations, which were conducted at 20 degrees C When agar agar was used the results were too low and the differentiation of species difficult The number of colonies found in 1 c c of sewage varied from half a million to seven million, average about four million Spores were estimated by adding 1 c c of diluted sewage (1 10) to 10 c c of melted gelatine in a test tube, heating to 80 degrees C for ten minutes, and then pouring into a Petri's capsule The average number of spores in 1 c c of sewage was about 350 Liquefying bacteria were estimated from the ordinary gelatine plate supplemented by surface plate cultivations The number of these was always found to be large—about 400,000 per cubic centimeter It is held that their presence has a bearing on the ability of sewage to cause the liquefaction of its own solid or suspended matters

In discussing the search for special micro-organisms the B enteritidis sporagenes of KLEIN is given prominence A minute quantity of sewage is added to 15 c c of freshly prepared sterile milk, contained in a test-tube, which is then heated to 80 degrees C for ten minutes, cultivated anaerobically by BUCHNER'S method and incubated at 37 degrees C When B enteritidis is present the casein is precipitated, the whey remains nearly colorless, and there is a marked development of gas A guinea pig inoculated with 1 c c of the whey dies within twenty-four hours with typical enteritic lesions "If sewage," the report states, "be regarded as the most frequent and dangerous source of the pollution of natural waters, and if, as seems to be extremely probable, it is found that the B enteritidis is not present in pure waters, it is obvious that apart from the pathogenic character of this anaerobe, we are here dealing with a bacteriologic method of detecting contamination with sewage, which excels in delicacy any chemical process known As the life history of this micro organism becomes more fully known the bacteriologist may not improbably be in a position to condemn a water for drinking purposes, by merely considering the results obtained in his examination for this particular organism "

The B coli communis is found in London sewage in large numbers, together with many which can be differentiated only by subcultures on a variety of media The typhoid bacillus was sought for in surface phenol gelatine, and in potato gelatine plates and the diphtheria bacillus in ascitic agar plates incubated at 37 degrees C , but the occurrence of these two micro-organisms in sewage in numbers sufficiently great to afford even a faint hope of their isolation must be an event so rare that it is probably a waste of time, according to Dr HOUSTON, to specially search for them when more practical and more immediately useful work claims attention In the London sewage protean forms were very abundant, and spores of B mycoides, B subtilis and B mesentericus were usually present, but Sarcinæ, yeasts and moulds were rare

The report is handsomely illustrated by plates showing the gross and microscopic appearances of the micro organisms described The progress of this inquiry by the London County Council will be watched with interest by health officers and municipal authorities, in the hope that in its developments an answer may be suggested for the troublesome question, what is to be done with our sewage ?

THE PENSION PROBLEM

For years the pension problem has been an embarrassment to the Government, and at the close of the pressnt hostilities the question may assume greater proportions With the wisdom born of experience, plans of mitigation have already been devised to meet prospective difficulties Throughout the late Civil War the cry was against "red tape" as being a cunning art of procrastination, and not much time was bestowed upon records The medical department of the period was supposed to be sufficiently occupied with the sick and wounded in the gross Persons were classified into cases, and thus this system, although of value as a contribution to medical history, was useless in identifications Civil work was also neglected, principally on account of items absent from the blanks Information was not expected and therefore not given Besides, military activities due to a sudden expansion of the army were in the ascendant, levies of troops increasing in number at each call were more frequent, and the outcome of the war was at the least quite uncertain Pensions, likewise, were more lavishly promised, and provisions for liquidation of claims were rather on a haphazard scale As in life, individuals degenerate into records, so in the cases under consideration, what wonder that there should be delays, disorder, frauds and denials of justice? In the language of a war department official "the chief difficulties have been in the obtaining and sifting of testimony after late determinations " For more than thirty years an army of examiners, regular and special, has been maintained at a great outlay, since a government, like a bank secretary, ever pays upon mere sight of the draft Beyond a doubt a nation's gratitude is desirable to the claimant, but somehow the much-referred-to "unscrupulous attorney" spoils the chances of the worthy and gains but little in the way of a pittance for his easy-going client armed with his flawless affidavit, in too many instances entirely innocent of the fatal element of truth

We have been assured that our new pension list, according to the most accurate calculations, will closely crowd about 3000, owing to the new warfare and the triumphs of modern surgery But we are also told that over 600,000 old applications are pending, which include original pensions as well as increases accrued and new disabilities With all the humane tendencies of the government and all the liberal provisions against disaster, proof of worthiness is a necessity, and the applicant must consume a deal more of time than he expected The work to be done is practically indexing his own records so that they may lighten the labor of the searchers, in other words, the card system of libraries with duplicates as a provision against accident, the same, as a matter of detail to be edited by a chaplain or company secretary for the sake of conciseness and smoothness · diction These hints are given out

Malingering.

WASHINGTON, D C, Aug 24, 1898

To the Editor —Apropos of the communication on "Malingering" (p 423, August 20), suits for alleged malpractice are indeed to be deprecated, and it behooves the profession everywhere to stand together in resisting the attacks of the ignorant and the malicious, whether they be directly from the laity or, as is so often the case, inspired by more or less unprincipled and over zealous "shysters" of the legal profession On the other hand, when, as in the case cited, the medical practitioner adopts such questionable methods, does he not but reap the penalty of his folly? That a physician should consent "nearly every day, to make some kind of an application to the uterus" of a pronouncedly hysteric woman of neurotic history, "more to satisfy her than for any good it did," is of the very essence of charlatanry There seems to have been no question as to the diagnosis, the symptoms noted would be most natural under the conditions described The daily diddling, under the guise of legitimate operative procedure, could accomplish nothing but an aggravation of the patient's erethism, pampering to her depraved sensibilities Of course, the patient is strong, robust, healthy, and active," "since he quit" practicing such instrumental masturbation! Such treatment, or rather such abuse of the perverted sexual instinct of a hysteric, smacks of ignorance born of laziness, if no worse, but, by the defendant's own admission, he deliberately set about to deceive his patient, "to satisfy her intense desire that he should use powerful remedies to kill her cancer," which he knew she had not Surely, the "reputable firm of lawyers' could find no better brief to submit in behalf of their client than this outrageous confession Faithfully yours,

MURRAY GALT MOTTER, M D

ASSOCIATION NEWS

Some Suggestions Regarding the American Medical Association —The large number of physicians attending the annual convention of the American Medical Association are certainly entitled to individual consideration It is, therefore, proper for the benefit of the scientific sections to have only those papers read which are practical and which can bring out good discussions, or those based upon practical research and investigation There can be no question that either there is mismanagement in some Sections or that special favoritism is bestowed on a few influential friends Our attention is, however, directed to an abuse which calls for an executive investigation, viz That certain men send titles of papers to several sections—in some instances they announce papers in three different sections, in most instances merely to see their names in print or else to see how often they can find their names printed in a single program In one instance a gentleman was given preference on the program and other papers postponed to enable this bright individual to wander from section to section and give "scientific" orations and expound new ideas, based on experience of long standing This is radically wrong While there can be no objection to discussing papers of especial interest in the various sections, especially so if invited to participate, we feel that it is radically wrong to permit some men to monopolize various sections and crowd equally prominent men It can only add to the dignity and scientific value of each particular section if each paper, or rather if the abstract was carefully scrutinized and eliminated if not found desirable This would not only encourage good work, but would stimulate those men who boast that anything is good enough for the American Medical Association —*Medical Times and Register*, August 13

SOCIETY NEWS

Tennessee Health Officers' Association —This body held a three days' session at Nashville, Tenn, ending August 16 In the election of officers, Dr W S Nash of Knoxville, was re elected president and other officers chosen as follows First vice president, Heber Jones of Memphis, second vice president, Charles E Lones of Knoxville, third vice president, Larkin Smith of Nashville, secretary, H C Chance of Tazewell, advisor and superintendent of the veterinary division of the association, H D Fenimore of Knoxville

Canadian Medical Association —At the twenty first annual meeting of this Association, held at Montreal, August 18, 19 and 20, the following officers were elected President, Dr Irving H Cameron, Toronto, vice presidents, Prince Edward Island, Dr J McLeod, Charlottetown, Nova Scotia, Dr Kirkpatrick, Halifax, New Brunswick, Dr L N Bourque, Moncton, Quebec, Dr Jas Bell, Montreal, Ontario, Dr J A Williams, Ingersoll, Manitoba, Dr R S Thompson, Deloraine, Northwest Territories, Dr Lindsay, Calgary, British Columbia, Dr P J Tunstall, Vancouver, general secretary, Dr F N G Starr, Toronto, treasurer, Dr H B Small, Ottawa, publishing committee, Drs A D Blackader, J L Dawson, W W Young and the general secretary and treasurer, by laws, E C Parne, Wyatt Johnston, Jas Bell, E R Dickson, G S Ryan, W W Dickson, M. Beausoleil and the president and secretary

Health Officers and Sanitarians in Illinois are invited to the next meeting of the Auxiliary Sanitary Association of the Illinois State Board of Health, which will be held in the Capitol Building at Springfield on Sept 26 and 27, 1898 The object of this meeting is to discuss matters of interest to those engaged in sanitary work, such as the prevention and restriction of communicable diseases, the regulation of systems of sewerage and public water supplies, the drainage and sewerage of villages, the legislation necessary to promote sanitation throughout the State, etc, and to establish close relationship between the State Board and local officials A program of the papers to be read will be sent to any who make request, by the Secretary, who will also gladly answer any inquiries The Illinois State Fair will be held at Springfield, September 26 to October 1 Those who attend the convention will have an opportunity to also visit the Fair on the days when the most attractive programs will be presented, and the railroads have agreed to sell tickets to all attending the Fair at one fare for the round trip from any point in the State J A Egan, M D, Secretary Illinois State Board of Health, Springfield

Association of American Medical Colleges —*Decision of the* Judicial Council, denying the right of the Medico Chirurgical College of Philadelphia to resign *its membership*

The Council decides that the Medico Chirurgical College of Philadelphia is now, and has been continuously since 1891, a member of the Association of American Medical Colleges, in full fellowship It signed the Constitution and By Laws and participated in each annual meeting, *including that of* 1898, thereby assuming the obligation of honor to maintain and observe all the provisions of the constitution

Article III, Section 3 of the Constitution, which the said Medico Chirurgical College voluntarily pledged to observe, says "Candidates for the degree of Doctor of Medicine in the year 1899 and thereafter, shall have attended at least four courses of medical instruction, each course of at least six months' duration, no two courses of which shall have been in the same calendar year"

Section 6, Article III, prescribes the conditions on which credits for one year of time, in the four courses may be extended to certain persons whose claims for exemption are clearly defined

Section 7, Article III, states that, "Members of this Association may confer the degree of Doctor of Medicine, during the year 1898, upon students who have attended three courses of six months' duration each, each course shall have been in a separate calendar year"

The Judicial Council of the Association of American Medical Colleges has repeatedly decided that the constitutional requirement of four courses in 1899 and thereafter must be construed to begin Jan 1, 1899, and these decisions have been unanimously adopted by *the aid of the votes of the* said Medico

Chirurgical College participating in the general sessions of the Association It is impossible that the said Medico Chirurgical College, an institution of high character, could have promised any student to descend from the scale of honor, and to hold down the standard below the requirements it solemnly pledged to observe in 1899 and thereafter

The AMERICAN MEDICAL ASSOCIATION, at Detroit June, 1892, unanimously demanded of all the colleges in the United States the adoption and observance of a standard of requirement for the degree of Doctor of Medicine, which should in no manner fall below the minimum standards of the Association of American Medical Colleges At Denver, on June 9, 1898, the AMERICAN MEDICAL ASSOCIATION unanimously resolved to hereafter deny the right of membership to any professor or other teacher in any medical college which confers the degree of Doctor of Medicine on conditions below the published standards of the Association of American Medical Colleges after Jan 1, 1895 Those receiving the degree on such conditions are likewise barred It is clear, therefore, that the College Association must maintain its own published requirements, as these are conditions which shall determine the qualifications of membership in the AMERICAN MEDICAL ASSOCIATION The Association of American Medical Colleges can not concede to any one of its members the privilege of resigning to fulfill a pledge made as a breach of faith

It is the judgment of the Council that the resignation of the college can not be accepted, and that the presence of Professor LaPlace as the authorized delegate, and Professor Shoemaker as an associate, and their participation in the general sessions of the Association of June 6, 1898, directly contradict the statements of Dean Egbert in his letter of resignation

(Signed by) DUDLEY S REYNOLDS,
STARLING LOVING,
JAMES H ETHERIDGE,
ALBERT R BAKER,
RANDOLPH WINSLOW,
VICTOR C VAUGHAN, absent in Cuba,
JOHN B ROBERTS, failed to report

Mississippi Valley Medical Association—The following is the preliminary program for the meeting at Nashville, October 11-14, 1898

Why I have Abandoned the General Practice of Vaginal Hysterectomy B Sherwood Dunn, Boston, Mass

Tonsillitis or Quinsy, Causes and Treatment J A Stucky, Lexington, Ky

Pichi H W Whitaker, Columbus, Ohio

A Few Practical Points in the Treatment of Posterior Urethritis A Ravogli, Cincinnati, Ohio

The Neuro Hypothesis of Rheumatoid Arthritis Frank Parsons Norbury, Jacksonville, Ill

Diphtheria and its Logical Treatment A M Osness, Dayton, Ohio

Varicocele F E Kelly, LeMoille, Ill

A Plea for Pelvic Peritonitis and Cellulitis F F Bryan Georgetown, Ky

Syphilis John M Batten, Pittsburg, Pa

Gonangeiectomy and Orchidectomy for Hypertrophied Prostate in Old Men Geo W Johnson, Dunning, Ill

Wounds of the Lachrymal Apparatus, Report of Operation for Restoration of Canaliculi Obliterated by Traumatism Geo F Keiper, Lafayette, Ind

A Consideration of the Limit to Operative Gynecology Shelby C Carson, Greenboro, Alabama

The Relations of the Gynecologist and the Neurologist W H Humiston, Cleveland, Ohio

Intermingling and Changing of Type in Diseases W Gaston McFadden, Shelbyville, Ind

Mercury and Its Action William F Barclay, Pittsburg, Pa

The Diagnosis of Gonorrhea in Women J Riley Eastman, Indianapolis, Ind

Sub Periosteal Removal of Caries from the Pelvic Basin, with the Report of Cases S E Milliken, Dallas, Texas

Complete Inspection of the Rectum by Means of Newer Mechanical Appliances Thos Chas Martin, Cleveland, Ohio

Hydrotherapy in Stomach Diseases Geo D Kahlo, Indianapolis, Ind

Surgical Treatment of Infantile Paralysis Alex C Wiener, Chicago

Suprapubic Cystotomy vs Perineal Section James M M Parrot, Kingston, N C

Report of Cases in Obstetrics with Complications R C Pratt, McKenzie Tenn

How Should We Treat Typhoid Fever° T Virgil Hubbard, Atlanta, Ga

Interesting Surgical Cases M Goltman, Memphis, Tenn

The Relationship between the Genito urinary Tract and Rectum, with Special Reference to the Female John L Jelks, Memphis, Tenn

A Clinical Contribution to Ectopic Gestation W W Taylor, Memphis, Tenn

The Bicycle from the Medical Standpoint I N Love, St Louis

Surgical Treatment of Pus in the Pelvis Jos Price, Philadelphia, Pa

Operations on the Mastoid, When and How Performed Andrew Timberman, Columbus, Ohio

Arthritic Diathesis R A Bate, Louisville

Diagnostic and Therapeutic Uses of Tuberculin Chas W Aitken, Flemingsburg, Ky

Some Pathologic Conditions of the Ovaries and Adnexa Causing Pain G W Halley, Kansas City, Mo

American Association of Obstetricians and Gynecologists—This Association will hold its eleventh annual meeting at Pittsburg, Pa, Sept 20, 21 and 22, 1898 The following program is announced

President's Address, Charles A L Reed, Cincinnati

Septic Infection of Ovarian Cystoma, Charles Greene Cumston, Boston

Recent Experiences with the Alexander Operation, H E Hayd, Buffalo

Nursing in Abdominal Surgery, Joseph Price, Philadelphia

Carcinoma of the Breast, W F Westmoreland, Atlanta

Operative Technique for Intraligamentous Ovarian Cystoma, D Tod Gilliam, Columbus

Organization of Major Operations in Private Practice, W G Macdonald, Albany

Explanation of the Character of the Temperature in Appendicitis, Robert T Morris, New York

Pathologic and Clinical Phases of Gall Stone, A H Cordier, Kansas City

Some Facts in Regard to Uterine Fibroids, H D Ingraham, Buffalo

Albuminuria Complicating Gynecologic Operations, Rufus B Hall, Cincinnati

Extrauterine Pregnancy with Specimen, Mature Fetus Borne Twelve Years, W J Asdale, Pittsburg

Surgical Treatment of Morbid Conditions Involving the Broad Ligaments, A P Clarke, Cambridge

Paper by Walter B Dorsett, St Louis

A Second Paper on the Surgical Treatment of Intussusception in Infants, with Cases, H Howitt, Guelph, Ont

Relation of Nervous Affections to Diseases of Female Pelvic Organs, B Sherwood Dunn, Boston

Ureteral Anastomosis, Geo H Noble, Atlanta

The Graver Forms of Nerve Disturbance due to Organic Changes in the Genital Organs, W H Humiston, Cleveland

Some of the Complications Following Vaginal Hystero Salpingo oöphorectomy in Pelvic Suppuration, F Blume, Allegheny

The Question of Intra abdominal Drainage, Edwin Walker, Evansville

Report of a Case of Double Uterus and Vagina with Pregnancy in one Horn, Excision of Vaginal Septum, F Blume, Pittsburg

Some Clinical Observations, Based on Over 100 Abdominal Sections for Ovariotomy, X O Werder, Pittsburg

Remarks on Methods of Hemostasis, with Demonstration, Walter B Chase, Brooklyn

Past and Present Surgery of the Gall bladder and Bile ducts, William H Myers, Fort Wayne

Treatment of Granular Erosion of the Cervix by Ligature of the Cervical Vessels, D Tod Gilliam, Columbus

Relation of Rectal to Pelvic Disease and to Nervous Disorders in Women, Joseph M Mathews, Louisville

Treatment of Endometritis, William A B Sellman, Baltimore

Tubercular Peritonitis, J B Murphy, Chicago

BOOK NOTICES

Diseases of Women A Treatise on the Principles and Practice of Gynecology for Students and Practitioners By E C DUDLEY M D Octavo, pp 637 Philadelphia and New York Lee Bros & Co 1898

Professor Dudley's work is the result of long years of study and observation and this fact must carry with it a certain authority The book fairly covers the field of gynecology, and is divided into five parts Part I is given to the general principles of gynecology, such as psychologic periods in the life of women, aseptic and antiseptic diagnosis, local treatment, major and minor operations, drainage and after treatment, relations of dress, Part II is given to inflammations of the female generative organs, including the pelvic passage, Part III to tumors, tubal pregnancy and malformation, Part IV discusses traumatisms, both nonpuerperal and puerperal, and Part V displacement of the uterus and other pelvic organs

The teachings of the author are sound and conservative, the illustrations are clear, many of them original, and the book as a whole constitutes a valuable contribution to the subject The author's personal contributions to gyneclogic literature have been extensive, and the resulting work may be taken as a finished product of his life experience

History of Yellow Fever, Indispensable Facts Pertaining to Its Origin and Cause, and Its Present Artificially Acquired Habitat, with Reasons Going to Show the Possibility of Its Complete Extinction from the Globe, Its Nature, Anatomic Characteristics, Symptoms, Course and Treatment, with an Addendum on its Twin Sister, Dengue, containing a Parallel Table of the Most Prominent Symptoms of each Disease By W L COLEMAN, M D Pp 141 Houston, Texas

This book comprises the results of forty years' active work in the South and personal experience in passing through several epidemics of yellow fever It is pleasantly written, and many of us will notice with pleasure the frequent reference to names of well known epidemiologists The anecdotes in the book are well told, and whether or not one agrees with the optimistic views of the writer in regard to the prevention and ultimate extinction of the disease, he will at least derive pleasure from a perusal of the book

A Guide to the Clinical Examination of the Blood for Diagnostic Purposes By RICHARD C CABOT, M D With colored plates and engravings Third revised edition Pp 452 Octavo New York William Wood & Co, 1898 Price, in cloth, $3 25

We have heretofore mentioned in terms of praise the appearance of successive editions of this estimable volume The present edition has had about forty pages of new matter added, in which is an account of Professor Oliver's tintometer and hemoglobinometer, new matter on the primary anemias and on leukemias, also a description of Muller's "blood dust" new observations on poisoning by alcohol, opium, corrosives and ptomains, on aneurysms, on paroxysmal hemoglobinemia and on cretinism The general plan of the book remains the same as heretofore It is indispensable for practitioners who desire to keep abreast of the newer methods of clinical diagnosis, and is wholly a credit to American medical literature

Laboratory Work in Physiological Chemistry By FREDERICK G NOVY Sc D, M D Second edition, revised and enlarged Pp 326 Ann Arbor George Wahr, 1898

This edition is, as stated on the title page, enlarged and revised, so much so as to almost constitute a new book Every medical student should receive laboratory instruction, and this work will be indispensable in the examination of food stuffs and the fluids and secretions of the body Indeed, modern physiology requires so much experimental work for its proper understanding that the intelligent reading of a modern text book is scarcely possible unless one keeps posted in the operations of the laboratory

Transactions of Forty eighth Annual Meeting, with Constitution and By Laws, of the Illinois State Medical Society, held in Galesburg May 17, 18 and 19, 1898 Pp 530 Ottawa Free Trading Printing house, 1898

This volume contains, besides a record of the proceedings, the addresses and papers read before the Society, list of officers, place of meeting, list of members, officers of sections and committees The Secretary is to be congratulated upon the early appearance of the transactions, the careful editing and excellent makeup We regret that the speeches at the annual dinner were not reported, but otherwise there is little room for criticism The papers are generally excellent and show a high grade of work

The Sanitary Institutions of the Imperial Government of Japan Paper Pp 103 Published by the Central Sanitary Bureau of the Home Department, Yokohoma, 1898

The five parts of this volume deal respectively with "The Organization of the Sanitary Institutions," "Institutions as to the prevention of Infectious Diseases," "Institutions for Vaccination," "Public Health Institutions," and "Medical Institutions" The arrangement and classification of the topics under these several heads is clear and the various chapters contain much information as to the sanitary institutions of Japan

Proceedings of the Association of American Anatomists Paper Illustrated Pp 142 Washington, D C 1898

This volume contains the proceedings of the tenth annual session of this Association held at Cornell University, Ithaca, N Y, Dec 28-30, 1897, and an appendix containing a list of members It also contains the Constitution, officers for 1897-98, a report on anatomic nomenclature, and various papers and discussions

PAMPHLETS RECEIVED

Bronchial Carcinoma The Question of *Operative Interference in* Recent Simple Fractures of the Patella By Charles A Powers Denver, Colo Reprints

Calculous Disease and the Treatment best Adapted for its Prevention By H Foster Hazlett Pueblo Colo Reprinted from Therap Gaz

Carcinoma of the Stomach Retrogressive Lymphatic Transport etc By W, C F Witte Milwaukee Wis Reprinted from Phila Med Jour

Catalogue of Law Medical and Dental Departments of the National University, Washington D C

Cataract Operations By L Webster Fox *Philadelphia Pa* Reprinted from International Clinics

Colorado College of Dental Surgery Third Annual Announcement Denver, Colo

Curvature of the Neck of the Femur Sometimes Called Coxa Vara" By Charles H Frazier, Philadelphia Pa Reprinted from Annals of Surg

Disease as Described in Literature By Cephas L Bard Ventura, Cal Reprinted from Pacific Med Jour

Diseases of the Eye Caused by Diseases of the Nose By Allen T Haight Chicago Ill Reprinted from Jour Am Med Ass n

Georgetown University School of Medicine Circular of Information Washington D C

Influence of Antitoxin in Treatment of Laryngeal Diphtheria with and *without Intubation By Edwin Rosenthal, Philadelphia Pa Reprinted* from Md Med Jour

John A Creighton Medical College Announcement Omaha Neb

Johns Hopkins Medical School, Baltimore Md Sixth Annual Announcement

Kephir By C D Spivak Denver Colo Reprinted from N Y Med Jour

Kryofine By John H Curtis, Chicago Reprinted from Therap Gaz

Medico-legal Significance of the Physical and Mental Examinations of Railway Employes By Granville P Conn Concord N H Reprinted from Railway Surgeon

New York Post Graduate Medical School and Hospital Announcement New York City

Physical Characteristics of 10 000 Men By Lieut Col Charles Adams, Chicago Ill Reprinted from Med Standard

Precocious Cerebral Syphilis By W F Wegge Milwaukee Wis Reprinted from Trans of the State Med Soc, 1898

President's Address before Med Soc of Pennsylvania By W Murray Weidman Reading Pa Reprinted from Penn Med Jour

Remarks at the Presentation of the Candidates for the Degree of M D *at the Commencement* of the Johns Hopkins *University June 14 1898* By William H Welch, Baltimore, Md Reprinted from Johns Hopkins Hosp Bul

Renal Calculus The Diagnostic Importance of Fever in Late Syphilis The Essential of the Art of Medicine By J H Musser Philadelphia Pa Reprints

Sanitarium Treatment of Pulmonary Tuberculosis By J Edward Stubbert Liberty N Y Reprinted from N Y Med Jour

Sectarianism in the Medical Profession By G W Brooke Ellsworth, Ohio Reprinted from *Cleveland Jour of Med*

Some Results of the Administration of Thyroid Extract on the Corpuscles and Hemoglobin in Anemia Associated with Melancholia By Samuel Bell, Newberry Mich Reprinted from Physician and Surgeon

Souvenir Magazine Ann Arbor Mich

State Control in Medicine By J W Pettit Ottawa Ill

Tuberculin Test in Cervical Adenitis By Edward O Otis, Boston Mass Reprinted from Med News

University of Colorado Summer Bulletin Boulder Colo

University of Oregon Medical Department Annual Announcement Portland Ore

Western Reserve University Announcement Cleveland Ohio

TRADE PAMPHLETS

Illustrated Catalogue of Orthopedic Apparatus W F Ford & Co New York City

Jewell Water Still The O H Jewell Filter Co Chicago

Lactopeptine Desk Calendar New York Pharmacal Association, New York City

Palmyra Springs Sanitarium Dr L H Prince Palmyra Wis

Price List of Bayer s Pharmaceutic Products Forbenfabriken of Elberfeld Co New York City

Price List of H K Mulford & Co Philadelphia

Red Cross Notes Johnson & Johnson New Brunswick, N J
Steuben Sanitarium, The Dr J E Walker Hornellsville N Y
Surgeons General of the U S Navy Series I Maltine Company, New York City
The Glen Springs, Watkins Glen N Y
The Ship's Doctor Arlington Chemical Co Yonkers N Y
Ypsilanti Mineral Bath House Ypsilanti Mineral Bath Co Ypsilanti Mich

NECROLOGY

Francis Walton Todd, M D , was born at Bardstown, Ky , April 17, 1816, and was educated at Illinois College, Jacksonville, Ill In March, 1838, he was graduated in medicine at Cincinnati College under the tutelage of Drs Drake, Willard Parker, Fash McDowell and Samuel D Gross, and in 1839 he went to Port Gibson, Miss , where he practiced his profession until February, 1847, when he joined the army of General Scott as an assistant-surgeon, and made the campaign to the city of Mexico After the close of the war he resided in New Orleans until the spring of 1849, when he went to Panama, and was employed by the chief engineer superintendent of the railroad, then building, to take care of his sick, which he did until the steamer *Panama* came around from New York, on which vessel he went to California, arriving at San Francisco June 4, 1849 For several years he resided at Todd's Valley, Placer County, and to the practice of medicine he added horticulture and viticulture in which he was successful, but the mines having become exhausted, and the population gone to other pursuits, together with his remoteness from market he gave away a property that had cost him a large sum and removed to Stockton, where he gave twenty years to medicine, except three years spent in Europe During this time he held, for several years, the office of member of the first State Board of Health, was a delegate to the International Congress in 1876 at Philadelphia, was one year the secretary, three years a vice president, and one year president of the State Medical Society of California, president of the Board of Health of Stockton, for two years president of the San Joaquin Society of California Pioneers, and as long as the Society existed was secretary of the San Joaquin County Medical Society Retiring at the age of 72 years, from a laborious practice, he sought ease in retirement at Coronado, Los Angeles, and other resorts Dr Todd was a mason and knight templar and died at Capitola, Cal , Aug 5, 1898, strong in the faith of the Christian religion

Lawrence S Smith, M D , major and surgeon of the First Regiment Penn Vol Infantry, died at sea, on the hospital ship *Relief*, August 17, of typhoid fever Major Smith was 32 years old, and since 1894 has been in general medical practice at 133 South Eighteenth Street, Philadelphia, Pa , devoting special attention to gynecology He was educated at the Cheltenham Military Academy, subsequently entering successively the College and Medical Departments of the University of Pennsylvania, from which he graduated in 1891, then serving eighteen months as resident physician, the time being divided between the Pennsylvania Hospital and the University Hospital From the latter he went to Germany, and studied at Goettingen for two years, At the outbreak of the war with Spain he was surgeon major of the First Regiment, and was mustered into service with that command at Mt Gretna While at Chickamauga he was ordered to Newport News, to accompany the Porto Rican expedition as surgeon of the First Army Corps, and contracted typhoid fever at Ponce

John F Morse, M D —On August 23 San Francisco witnessed the funeral of one of her ablest surgeons, John F Morse He was a native Californian, graduated from the old Medical College of the Pacific in November, 1878, and had practiced surgery in San Francisco almost continuously since that time For some years he was connected with what was then known as the Morse Clinic of the Cooper Medical College, the clinic having been established by his father A few years ago there arose a difference of opinion between Dr Levi C Lane, who controls the Cooper Medical College, and Dr Morse, which resulted in Dr Morse severing his connection with the clinic Dr Lane thereupon changed the name of the clinic from the "Morse Clinic" to the "Cooper College Clinic " Dr Morse shortly afterward was appointed chief surgeon to the German Hospital, which position he filled with eminent satisfaction up to the time of his death He was an intense student, a brilliant, clever and capable operator, a hard worker, and a man of sterling honesty No surgical proceeding or possibility, which offered the slightest prospect of relief for his patient, was too difficult or appalling for his deft fingers or his clear, cool thinking He was a member of a number of lodges and societies, and at the time of his death an active member of the Board of Health of San Francisco The funeral was held under the combined auspices of those various organizations Though his home and his work were in San Francisco, his name and his fame were confined to no City and no State in our country, nor to our country alone He died after an illness of about ten days, from cerebral hemorrhage following a collapse from overwork His life was a living illustration of the three factors which should actuate every physician Honesty, thoroughness, and persistent, indefatigable application

John S Griffin, M D , a pioneer physician and a public spirited citizen, who founded East Los Angeles, and whose sheep once roamed in thousands over his ranches in San Pasqual, now Pasadena, died at Los Angeles, Cal , August 21, aged 82 years Through the history of Southern California for the past half century runs the thread of his life He received his medical education at the University of Philadelphia, and practiced several years in Louisville, Ky , being appointed assistant surgeon in the army in 1840 After service in Florida, he was with General Kearney in 1846, when he entered Santa Fé at the outbreak of the Mexican War, going to San Diego, Cal , Dec 10, 1846

Joshua P Arthur, M D , Laredo, Texas, August 19, aged 58 years ——Harvey S Baker, M D , Bradford, Pa , August 17 ——C B Belt, M D., Boston, Mass , August 23, aged 51 years ——D W Boyd, M D , Yoakum, Texas, August 18 ——N Chapman, M D , Washington, D C , August 16, aged 58 years ——G A Henry, M D , Detroit, Mich , August 19, aged 35 years ——C M Hibbard, M D , St Louis, Mo , August 22 ——Caleb C Johnson, M D Hillsdale, Mich , August 28, aged 84 years ——W D Lonergan, M D , Rogers Park, Chicago, August 28, aged 57 years ——E G Moore, M D , Spring Valley, Ill , August 11 ——John Morehead, M D , Dixon, Ky ——John Borland Wallace, M D , Detroit, Mich , August 21, aged 48 years

PUBLIC HEALTH

Yellow Fever in the South—According to press dispatches of August 25, Dr Carter of the United States Marine Hospital Service, who has been stationed at Franklin, La , declares the case previously reported there as suspicious to be genuine yellow fever This is the second case reported at Franklin

Barbers Preparing a Bill—According to the *Chicago Record* of August 25, the barbers and some of their friends in the medical profession will prepare a bill to present to the legislature which, if it becomes a law will require barbers to disinfect all tools, towels, sponges, brushes and whatever articles may be required in the pursuit of their business Under this law nothing but strictly antiseptic barber shops will be allowed in Illinois The bill will provide that all barber shops shall be under the control of the State Board of Health and each pay a license of $10 a year The license shall only be granted after a thorough examination of the applicant s shop has been made and its sanitary conditions approved Each individual barber shall also pass an examination as to his knowledge of the trade and as to his knowledge of the use of disinfectants The barber shall also have worked at his trade a certain number of total cases in this country to 100. Of these 64 cases, the youngest was six months old, the oldest 2½ years. Four only were over eighteen months of age, and 35 from nine to thirteen months. Of 50 cases in which the sex was noted, 24 were girls and 26 boys. Of the 64 cases, 52 presented a definite gum affection. The gums were normal in 10 and in 2 the record was incomplete. From his tabulations he concludes that 1. The contention that there is no evidence that scurvy has been caused by sterilized milk must be given up. The evidence here presented is not considered conclusive, but it renders it highly probable that persistent sterilization of the food by boiling may produce scurvy. 2. It must even be admitted that scurvy may develop in nurslings.

Women in the Medical Profession.—The recent German Aerztetag or Congress of Physicians devoted one session to a consideration of this question, finally officially adopting the conclusions of Prof. Pentzold's address, "If women should enter the profession in large numbers which is however scarcely probable as long as the requirements are the same as for male students, and as long as no special schools are founded to facilitate their studies, the sick would not be materially benefited, it would prove no benefit, to say the least, for German universities and German science, it would detract from the dignity of the profession, and the public welfare would not be promoted thereby. For these reasons it is unwise for medicine to be the first of the learned professions to admit women."

Deligation of the Innominate Artery.—Dr. J. T. Lewtas (*Indian Lancet*, May 16) reports the successful ligation of the innominate artery for secondary hemorrhage following an injury to the subclavian artery due to the bursting of a gun. The man entered the hospital a month after the injury, complaining of pain and stiffness in the neck and shoulder. Alarming hemorrhage followed the removal of a flat piece of steel, and the man became unconscious from loss of blood. The operation was performed without an anesthetic, and the patient seemed in a hopeless condition. He rallied, however, and made a slow but satisfactory recovery, being able six months after the operation to earn his living as a field laborer and stating that his right arm is as strong and useful as his left.

The *Philadelphia Medical Journal* makes the above annotation, and adds that while the innominate artery has been deligated a considerable number of times, this case is believed to be the third successful operation.

Diphtheria of the Eye.—McCollum, writing on "Antitoxin in the Treatment of Diphtheria" (*Boston Med. and Surg. Jour.*, for August 18), mentions fifteen cases in which the sight would undoubtedly have been lost except for the heroic administration of antitoxin. In only one of those cases was there destruction of the organ, and this was in abnormal condition at the commencement of the attack. "When a diphtheritic membrane appears in the eye the effect of antitoxin on the membrane can be more carefully studied than when it appears in the pharynx. In some of these cases 2000 units were given as the initial dose, and this was repeated in six or eight hours, if there was not a marked improvement." Except in very young infants, he believes the initial dose should be 2000 units, and in severe cases 4000 units may be given, the more concentrated the better, as the possible source of danger *lies in the amount of fluid*, and not in the inherent property of the antitoxin.

The Artichoke as a Culture medium in Microbiology.—Bacterial cultures have been made on almost all vegetables but the potato and the carrot are the principal ones in daily use in bacteriology. M. Roger has, however, reported to the Society of Biology, at the July meeting, that *in his opinion the artichoke* possesses several advantageous qualities in this respect. Nothing is more simple than to prepare it for the purpose. After having stripped off the scales the thick part is cut up into little cubes, care being taken to preserve the fibers (foin). The pieces are placed in tubes plugged with damp wadding the fibers being uppermost, so that the culture medium is represented by *a fleshy mass surmounted by a sort of tuft*. When the wadding is inserted the whole is heated in an oven to 115 degrees C. for a quarter of an hour. In making the inoculation *the germs must be deposited at the point of insertion* of the flowers.—London *Lancet*, July 30.

Antitoxin Treatment of Tetanus.—Lund (*Boston Med. and Surg. Jour.*, August 18) reviews the treatment with tetanus antitoxin to date, and concludes that 1. The statistics show a diminution in the mortality, but the cases treated have as yet been insufficient in number, the reports too indefinite, and probably not all fatal cases included. 2. The more careful study shows less evidence that the antitoxin treatment, and not the mild course of the disease, determined the favorable course. 3. In the majority of instances the dose, especially the initial dose, has been too small. 4. The treatment demands further trial. 5. *Efforts to secure a stronger product* with a sufficiently large initial dose and at the earliest possible moment, directly into the blood stream will make it more effective. He believes that *for immunizing purposes antitoxin* has a valuable field, and the treatment should consist of Thorough disinfection of the primary focus by mechanical means, including, if necessary and practicable, amputation, the thorough local employment of such chemic antiseptics as have been shown to destroy both the bacilli and the toxin, symptomatic treatment by sedatives, etc., thorough diuresis, *intravenous injection of an amount* of antitoxic serum which shall contain at least 500 antitoxic units, at the earliest possible moment.

Hemorrage Following Tonsillotomy.—Zimmermann (*Archives of Otology* for August) says that tonsillotomy should never be performed in certain constitutional affections, as in hemophilic persons or those who for any reason have a tendency to bleed profusely, or in hypertrophy of the left ventricle, hemorrhage occurs more frequently in adults than in children. In acute inflammation it should not be performed, hyperemia being present and a greater tendency to bleeding. After the operation the patient should keep quiet, avoid alcoholics, not use his voice, not travel, and not eat solid food for several days. Gargling with cold water is good after the operation, but not for too long a time, as it may interfere with the formation of thrombi. After the bleeding ceases, dust the surface with iodoform mixed with tannic acid. In persistent hemorrhage, resort to the Paquelin thermocautery, or a thick probe made redhot. Cauterization not being successful, he grasps the bleeding spot with an artery forceps which he leaves in place for a while and then makes torsion. "In all cases of severe bleeding after tonsilotomy the patient ought to be kept in an erect position, so that by the resulting anemia of the brain he is apt to faint, as a spontaneous restraint of the bleeding has been observed in cases in which an attack of syncope occurred."

Anecdote Concerning Dr. William Pepper.—The *Philadelphia Medical Journal*, August 6, tells the following incident of his later life, tending to show the heroic temperament and habits of its subject. The writer says "We are enabled to put on record a pretty little incident that occurred within the past few months which is related in illustration of the character of the man. A visitor calling upon him found him asleep in his office. He opened his eyes and gave a cheerful though weary greeting. At this moment a boy brought in a letter. Without rising, Dr. Pepper read it and handed it with the attached slip of paper to his visitor with the remark, 'This is the sort of thing that is killing me.' When the visitor read the slip, which was *a check for* $10,000 for one of Dr. Pepper's numerous works of beneficence, he said, 'Most men would be made very much more alive by such work as this of yours.' 'Each endowment I get costs me so much life.' To the further ques tion why he should not prolong his life by working less intensely and constantly, he half contemptuously said, 'If the same work is done in ten years for which others take thirty, it is in reality doubled, and more than doubled' It was the public duty upon which his eye was ever fixed, and everything, even his own life, certainly his own selfish interest, must be sacrificed to the noble cause He might be called our greatest institution builder He was assuredly Philadelphia's best friend and greatest citizen"

The Fool on a Cycle—In spite of the object lessons which inquests on cylists give, and in spite of police prosecutions, the number of cycling accidents increases, while it is evident that the majority of the casualities follow upon reckless riding The most common cause of disaster is want of caution in descending hills The effort of the National Cylists' Union to prevent accidents by placing notice boards at the top of all dangerous hills is treated with contempt by many cylists, who regard such boards as a playful invitation to "coast" to the bottom In a recent inquest held at Hull, the coroner is reported to have said that if cyclists persisted in disregarding notices which were exhibited for their personal safety it might be necessary for the protection of the public to require all cylists to dismount on going down hills which were marked "dangerous," and to inflict a heavy fine in every case where the notice was disregarded We quite agree "Put a fool on a cycle and he will ride to destruction," makes a very good reading of an old saw, and describes a situation which we can regard with equanimity But when the fool on his way to his proper destination thinks well to smash into other people it is time to put a limit to his folly —London *Lancet*, August 6

The Histopathology of Herpes Iris—Dr L C Pardee in the *Bulletin of the Johns Hopkins Hospital* for July reports two cases of this disease, with the results of a close study of its pathology His report shows that the histopathology may be summarized as an acute exudative inflammation of the upper half of the corium, with dilatation of the superficial network of blood vessels and lymphatics (the latter being slight), accompanied by a considerable emigration of polynuclear leucocytes, which in one case became almost immediately disintegrated after leaving the capillaries of the papillæ The latter, as the process extended, became practically filled with nuclear detritus, and, by the confluence of neighboring papillæ similarly affected, the vesicle was formed This phenomenon of nuclear fragmentation does not appear to have been noted by any previous observer In both cases the vesicle was formed by the lifting of the entire epidermis from the papillary body, the former becoming compressed over the vesicle in Case 1 and in Case 2 appearing swollen and edematous, and showing more or less dilatation of the inter epithelial spaces and detachment of the cells of the basal layers of the epithelium. The contents of the vesicles were always the same, and consisted of coagulated serum, polynuclear and mononuclear leucocytes, occasional detached epithelial cells, strands of fibrin, and in Case 1 much nuclear detritis No infarcts of blood vessels and no hemorrhages were noted The sweat apparatus, hair follicles and sebaceous glands were unaffected

The Typewriter—Bizzozzero in Italy, and other foreign writers, have recently been extolling the typewriter as almost a necessity for every professional man, comparing the easy, erect attitude at the machine with the position in writing, fingers and arms cramped, body stooping and pressed against the desk or table The injurious effects are particularly noticeable after a hearty meal, or with failing eyesight The typewriter does not strain the eyes, with practice it is possible to use it in the dark The time saved is also a great advantage, as much less time is required to typewrite the same amount of matter The blind were among the first to recognize the utility of the typewriter A light, inexpensive one is now made for them to communicate with each other in the dot language used among them, and the same machine, made heavier, with a pedal attachment, stamps a brass plate, from which any number of copies and books can be printed The physician also requires a light, compact, easily cleaned, durable and comparatively inexpensive typewriter These advantages are only to be secured with a steel type wheel machine The types are all on one small steel spool, which can be taken out and cleaned in a moment They are made interchangeable, with or without medical characters, and in any language Another advantage of this style is that the machine automatically stops printing when the end of the line is reached Many a physician has been enabled to lengthen and utilize his much needed vacation by having his portable typewriter with him, catching up with his correspondence and "getting up those papers" for which he has been collecting notes Where speed is not an object, no skill is required to run the machine, hesitating work and trembling fingers do not affect the printed copy, and writers all find after a little practice that literary work is much facilitated by composing on the typewriter, which shows each sentence in print The *Presse Méd*, recently asserted that "all American physicians now have typewriters in their offices for their personal use" which exaggerated statement we can accept as the customary tribute to our Yankee "appreciation of a good thing when we see it"

Incarceration of the Penis—Dr Theodor Floras, principal medical officer of the Antatolian Railway, Constantinople, reports (*Deutsche Med Woch*, of July 14) a case of incarceration of the penis The patient was a railway employe, about 55 years of age, who, presumably while in a state of intoxication, in the presence of a companion, passed his relaxed penis through the aperture of an iron screw nut, this aperture having a width of only 1 5 centimeters (0 6 in) The matter was treated as a joke, and encouraged by his companion he forced the nut with a twisting movement until it arrived at the attachment of the ligamentum suspensorium urethræ He was subsequently unable to remove the nut, but nevertheless went to work that same day and also the next On the evening of this second day he consulted a surgeon, who drew off his retained urine with a fine catheter, prescribed a diuretic, and directed lead lotion to be applied to the penis It was only next morning that Dr Floras saw him, more than thirty six hours after the application of the nut The man was then in a state of the greatest alarm and uneasiness, his penis hung down like an enormous, tightly filled sausage, and the diffuse swelling was so great that it was difficult to find the nut among the infiltrated tissues Amputation seemed to be unavoidable, but before resorting to it the man was taken to the engineering shop and held by two men in the upright position against a large anvil The penis, with the square nut encircling it, was then held horizontally on the anvil, a slight cut was made in the nut by a sharp chisel, struck by a hammer, and this cut was cautiously deepened until an iron wedge could be driven into it, whereupon the nut broke in two The internal screw threads of the nut had sunk into the tissues of the urethra and had caused ulcerative and necrotic changes, but in a few days all these symptoms disappeared, and the man returned to his work Dr Floras refers to a somewhat similar case recorded by M Ameisen, quoted in the *C für Chirurgie* for 1897, p 1166 —London *Lancet*, July 23

Use of the Galvanocautery—Rice (*N Y Med Jour* for August 20), in a paper on "In What Conditions of the Nose, Pharynx and Larynx the Galvanocautery Should and Should not be Employed," says "Cicatrices in the nose are always to be avoided and should be made as small as possible The galvanocautery puncture needs to be carefully done with an electrode at not more than a red heat The point should be introduced cold and the current turned on perhaps three times while the point is in the same place until sufficient depth of puncture is ob tained The smaller the diameter of the puncture the better This method is resorted to in anterior turbinated swellings only after all obstructions pertaining to the septum have been removed The galvanocautery should never be employed at so great a heat that the opposing surfaces are scorched There are several abnormities of the nasal septum which may be corrected with the electric cautery Small spurs of bone, etc , on the septum may be reduced by a single application of the cautery, sparingly, making a wound not more than one eighth of an inch in diameter Where the nasal partition is deviated as a whole, producing marked obstruction in one nostril, it should not be used The cautery is also of avail as a styptic in some cases of profuse nose bleeding, and prominences of the septum, three quarters of the way back, can be nicely contracted by the cautery The use of the cautery loop or écraseur in removing fibrous and semifibrous growths from the vault of the pharynx, he considers the only conditions of the post-nasal space demanding the galvanocautery, its greatest use being in the middle pharynx It should never be used in the larynx, where few conditions would demand it, except by the experienced

American Medical Operations in Persia —Drs Wishard and Mary J. Smith are at present in charge of the American Hospital and Dispensary at the Persian capital The hospital is a well built stone building, laid out on a scale too extensive for the means and force, but the two completed wings, with the well equipped dispensary just erected, wholly with money given in Teheran, constitute an effective plant Every day is dispensary day, and the crowds of men and women flock into their separate rooms The firman under which the hospital was erected, and the customs and prejudices of the country, prevent the reception of women into the hospital In Tabriz the missionaries feel it necessary to proceed with caution in the establishment of a hospital for women in a residential building, that has already been set apart for that object when the fit time shall have come to occupy it, the popular mind has not yet been educated up to the point of accepting that line of charitable effort In Teheran, however, the women come in swarms to the dispensary Dr Wishard is obliged to act with constant tact and discretion, and under constant limitations caused by the prejudices of the people For example, on one occasion he removed a tumor from the eyelid of a young woman, who, with the aid of two friends, managed to keep most of her face covered with her heavy veil during the greater part of the operation, exposing only the eye, and not minding blood and water and pain, so long as she could maintain the form of hiding her face from us She was not handsome , few of the women are It is only a fruit of the suspiciousness which shows itself in certain western countries in hiding the points of a race horse Woman is an animal to be guarded, suspected, hidden from others and never to be trusted Each man's wife is a prize animal for exhibition only to him This is the case in the cities, while in the villages women are as careless of veils almost as with us Medical missionaries need to be careful as to every assumption of the responsibility for cases The result, whatever it may be, is credited to the doctor Dying patients it is dangerous to receive, as a few deaths in the hospital, maliciously repeated in some false tale by an enemy, never lacking in a Moslem land, might bring a period of long and utter uselessness Yet mercy ever triumphs over prudence Men are often brought wounded or diseased to the hospital gate, and thrown down there One was left in the depth of winter in a ditch at the gate, and was found when nearly dead

Fracture of the Patella —Stimson (*Annals of Surgery* for August) advocates the single free incision as tending to the better protection of the patient in the treatment of this fracture That the operation can be done without once touching the cut tissues with the fingers, he considers an advantage He has frequently done the operation under local anesthesia, as cocain or freezing He makes an incision in the median line, slightly overlapping both fragments, then draws the sides apart and in turn lifts the fragments with a sharp retractor, freeing the surface from clot or fringe While they are thus held up, the joint is thoroughly washed with a hot salt solution The fragments are then drawn snugly together with hooks, the fringe adjusted, and two or three catgut sutures placed in the periosteum along the edge of the fracture, or a single silk or stout catgut suture passed through the tendon and the ligamentum patellæ so that its two strands lie on the front of the bone In the rents in the lateral expansions he sometimes places additional sutures With a continuous silk suture the incision is closed and, without drainage, the dressing applied, the limb being bound upon a posterior splint and the patient kept in bed with the foot elevated for a week, when the silk suture of the incision is removed and a light plaster of paris encasement applied This permits the patient to use crutches in a few days, and after a month the dressing is cut and the patient directed to wear it in the daytime only He finds that the joint can be flexed 90 degrees by the end of the third month, often earlier, the splint usually being entirely discarded before that time

International Red Cross Assistance for the United States —A communication has recently been received by the Secretary of State, from Hon And D White, the ambassador of the United States at Berlin, inviting attention to an appeal made to the people of Germany for funds to relieve the suffering growing out of the war between the United States and Spain The appeal was made by the Central Committee of the German Society of the Red Cross at the instance of the International Committee at Geneva The following is a translation of the appeal

> The war which has arisen between Spain and America is beginning to cause greater misery, especially owing to diseases which have broken out, so that a request for aid has been addressed to us here, through the medium of the International Committee of the Red Cross at Geneva The undersigned Central Committee deems it its duty, in view of the ties which unite the Societies of the Red Cross, and with a grateful recollection of the aid rendered from abroad to the German Volunteer Associations for the care of the wounded in war, to furnish pecuniary assistance to both the American and Spanish Societies of the Red Cross in their efforts to alleviate the sufferings of war In order, however, to prevent too great a diminution of the funds of our Societies of the Red Cross, upon which there is a great demand for their own work and for objects which have greater claims upon them, we apply to such circles in Germany as are willing to contribute to the relief of the wounded and sick in the present war, with the request that they will entrust such contributions to us, and thereby enable us to show the feelings of humanity which are always deeply impressed upon German hearts, even for the sufferings of strangers, and which have been proved by liberal gifts Our undersigned treasurer will receive contributions marked "For the Societies of the Red Cross in America and Spain," and will acknowledge their receipt in the press We also request all the country associations of the Red Cross in Germany to open places for the receipt of contributions

The appeal is signed by the members of the Central Committee of the German Unions of the Red Cross B von dem Kneseback, Vice Upper Master of the Ceremonies and Royal Chamberlain, President, Von Spitz, General of Infantry on the active list, First Vice president, Dr Koch, President of the Directory of the Imperial Bank and Privy Councillor, Second Vice president, Lademann, First State Attorney in the Second Royal District Court of Berlin, First Secretary, Marcinowski, Privy Upper Financial Councillor, Second Secretary, Dr Lieber, Surgeon General on the retired list, General Secretary, Von Burchard, President of the Board of Maritime Commerce, Active Privy Councillor, Treasurer The Central Committee of the German Unions led off the subscription list with a contribution of 10,000 marks, which, so far as the United States is concerned, may all go to the Spanish Red Cross Our own National Society has been generously supported by the people, and the many other relief associations that have been formed have been vying with it and with each other in their efforts on behalf of the sick and wounded Nevertheless it is gratifying to know that through the medium of the International Red Cross material assistance would have come to us, had we required it, from the sympathetic people of other countries

Service on an Army Hospital Train —We have been permitted to copy the report for the week ending August 7, rendered by Major Charles Richards, Surgeon U S Army, as illustrating the arduous service of the Hospital Train of Pullman cars on the railroads between Southern camps and general hospitals in the interior At the beginning of the week, July 31, 1898, the train was en route to Tampa, Fla , from Newport, Ky , in compliance with orders received from the Surgeon General on the previous day Tampa was reached next day, August 1, at 7 30 P M , about three hours late, the delay being due to the movement of troops north from Tampa on the same railroad At this point, Assistant Surgeon Stiles, U S Army, assistant medical officer and acting quartermaster of the train, was taken sick and excused from all duty Owing to the poor facilities at Tampa for watering trains, it was not until after midnight that the train reached Ybor City, where patients were to be loaded Word had, in the meantime, been sent to the Chief Surgeon, Fourth Army Corps, that unless patients had already been sent to the station at Ybor City it would be best to wait until the following morning before taking them on the train However, twenty eight cases were at the station on the arrival of the train, and these were placed upon the cars by 2 o'clock, A M The remaining cases began to arrive a few hours later, but as it rained almost incessantly it was 1 30 P M before all the patients were on the train The total number of patients received was 159 Of these, 121 had the diagnosis typhoid fever and 11 malarial fever The general condition of the patients received was much better than on some of the previous trips, most of the cases of typhoid fever being apparently in the first week of the disease At 1 45 P M the train left for Fort McPherson, Ga , which point was reached the following morning, August 3, at 7 o'clock, and by noon all the sick had been removed from the train, including one member of the Hospital Corps detachment on duty with the train Assistant Surgeon Stiles, being still unfit for duty, was permitted to leave train here and go to Atlanta Many minor repairs were needed, especially to the interior of the cars, and so far as the officer in charge was aware there was no urgency for an immediate return to Tampa, he, therefore, requested the Surgeon General to allow two days at Atlanta for these repairs This was granted, and the train was taken to the Southern Railway shops to enable this to be done By the time the repairs were completed, August 6, orders had been received to take the train to Fernandina, Fla , to receive sick for Fort McPherson, Ga , and to take convalescents and those able to travel to Washington Barracks, D C In accordance with these instructions the train left Atlanta at 4 30 P M , August 6, and proceeded to Fernandina As the train was held at Atlanta for nearly three days undergoing repairs, the number of cases transported during the week was under the average The number of miles traveled was 1700 Although the number of patients carried was less than usual the duties were, perhaps, more arduous for all than those of any previous week in the record of the train Some patients were received after midnight, which necessitated their being visited and prescribed for immediately after their reception The remainder were received during a severe rain storm to which the entire personnel of the train was exposed for hours But few of the patients were able to walk and had to be carried into and out of the train, all of which work devolved upon the train detachment These men performed their trying duties cheerfully and satisfactorily This might not be worthy of note but for the fact, that with a single exception, all of the privates of the detachment have been less than three months in the service, and that in addition to the physical labor of carrying 120 to 130 patients into and out of the cars at the beginning and end of each journey, they have had but little rest, either day or night, while patients are in transit, that their meals are often irregularly served, patients always being looked after first, and that sleep on a railroad car in motion is not as restful as sleep under ordinary conditions

The Human Skeleton —The following alleged boy's composition on bones is doubtless the best thing of its kind that has yet appeared It is from the San Francisco *Impress* "Bones are the framework of the human body If I had no bones in me I should not have so much shape as I have now If I had no bones in me I should not have so much motion as I have now and Grandma would be glad, but I like to have motion Bones give me motion, because they are something hard for motion to cling to If I had no bones, my brains, lungs, head and larger blood vessels would be lying around in me sort of looselike, and might get hurted, but now the bones get hurted, but not much lest it is a hard hit If my bones were burned I should be all brittle, and you could crumble me up because all the animal would be out of me If I was soaked in a kind of acid, I would be limber Teacher showed us some bones that had been soaked I could tie a knot in one I had rather be soaked than burned Some of my bones don't grow snug to my other bones like the branches of a tree do, and I'm glad they don't, for if they did I couldn't play leap frog and other good games I know The reason they don't grow that way is because they have joints Joints is good things to have in bones There are three kinds The ball and the socket joint is like my shoulder joint Teacher showed it to us, only it was the thigh of a cow One end was round and smooth and whitish, that is the ball end The other end is the socket It is saucer like and oils itself Another joint is the hinge joint, like my elbow It swings back and forth, oiling itself, and never creaks like the school room door does The other joint ain't much of a joint It's in the skull and don't have no motion All of my bones put together in their right places make a skeleton If I leave out some or put some in their wrong places it ain't no skeleton Crippled and deformed people don't have no skeletons Some animals have their skeleton on the outside I'm glad I ain't them animals, for my skeleton like it is on the chart wouldn't look well on the outside "

Washington

Health of the District —The report of Health Officer Woodward for the week ended August 20, showed the total number of deaths to have been 112, of which 56 were white and 56 colored The annual death rate for whites was 15 20, for colored, 32 80 The principal causes of death were Kidney diseases, 12, diarrheal diseases, 9, nervous diseases, 11, pulmonary consumption, 14 There were 3 fatal cases of diphtheria and 10 of typhoid fever At the close of the week there were 24 cases of diphtheria and 25 cases of scarlet fever under treatment The annual report shows, for this year, the lowest death rate in the history of the city, it being 19 32 per thousand

Enforces the Medical Practice Act — Health Officer Woodward is to be congratulated on the promptness with which he enforces the Medical Practice Act in force in the District of Columbia He has recently notified Dr A M Curtis that no death certificates bearing his signature will be accepted as valid by the Health Department Dr Curtis is a political appointee, under the Interior Department, which, strange to say, has control and directs the management of the Freedman's Hospital While Dr Curtis, it appears, was appointed after certification of the Civil Service Commission, he has *not* complied with the Act of Congress, requiring registration in the Health Office upon receipt of license from the Medical Supervisors of the District Examining Board The Interior Department claims that their appointee should not be amenable to the District law regulating medical practice and has written to the Commissioners, requesting that the Health Officer be directed to accept the death certificates, signed by Dr Curtis The Health Officer has been unable to find any clause in the Act of Congress regulating the practice of medicine in the District, which exempts Dr Curtis from complying with the requirements of the Act The Health Officer has also decided that Dr Curtis is practicing medicine in violation of the law, and has directed the Coroner to review all cases of death reported on the certificate of Dr Curtis The local profession cordially endorse the action of Dr Woodward

Woman's Dispensary —The annual report of the Woman's Dispensary shows the total number treated to have been 2852, number of new cases during the year, 1101, number of surgical operations, 48, number of prescriptions compounded, 2841

WASHINGTON ASYLUM HOSPITAL — The report of Dr D Percy Hickling, the visiting physician to the Washington Asylum Hospital, has been submitted to the District Commissioners It shows the total number of patients treated during the year to have been 941, of whom 488 were white and 453 colored The daily average attendance of the hospital was 85, number of prescriptions compounded, 28,900, total number treated in the Alms and Workhouse, 4062, insane cases examined, 57 He recommends an appropriation of $7,000 for building a new maternity ward, and $15,000 for building and furnishing a receiving ward for infectious diseases He further recommends a nursery and an ambulance for emergency service, and a fumigation plant for patients' clothing, etc He asks for an appropriation to furnish the nurses' home, and a salary for a trained nurse to have charge of the nursing in the hospital

HOSPITAL FOR INCURABLES —The report of Mrs Helen D McLanahan, the acting President, shows that the total number treated during the year was 55, number of deaths, 11 On June 30, 53 patients were in the house, of whom 12 were pay patients The total expenditures for the care of the hospital were $12,731 65 She recommends a Congressional appropriation of $5 000 for the current year

COLUMBIAN UNIVERSITY HOSPITAL —The Columbian University Hospital, adjoining the Medical Department, is about to be occupied The hospital is equipped in the most modern style, with large, well ventilated wards for males and females and a number of private rooms It has an operating room of modern design and spacious The building is lighted by electricity and is provided with an elevator and cold storage room The physicians connected with the Medical Department of the University constitute the attending and consulting staff

Dr C G MORRIS has been commissioned an acting assistant-surgeon, U S A, and has been ordered to Chickamauga Park Hospital Ga

Dr J M HELLER, acting assistant surgeon, U S A has been relieved from duty at Fort Washington, Md, and ordered to Camp Wikoff, Montauk Point

THE PUBLIC SERVICE

Movements of Army Medical Officers —To duty at Camp ikoff, Montauk Point N Y Lieut Col Nicholas Senn U S Vols, Major J L Powell Surgeon U S A Major Ira C Brown, brigade surgeon, Major Simon P Cramer, brigade surgeon, Major Samuel W Kelly brigade surgeon, and Acting Asst Surgeon John J Cannan from Williamsport, Pa To duty at Camp Meade near Middletown, Pa Major David C Peyton, brigade surgeon and the following acting assistant-surgeons W L Stevens from Orange, Va, Edward Lyon, Jr, from Washington, D C, D N Grealish and Frederick H Mills from Buffalo, N Y, H M Miley from Chambersburg Pa H M Cohen from Baltimore, Md, and E W Karrmann from North Woodbury, Conn To duty with troops at Fernandina Fla Capt W F Lewis Asst Surgeon U S A his orders to accompany the 5th U S Infantry to Santiago Cuba, having been revoked To duty with troops at Santiago Cuba Major John G Davis from duty with the 7th U S Vol Infantry at Jefferson Bks Mo, and Major John J Archinard from duty with the 2d Louisiana Vol Infantry at Jacksonville, Fla To duty with troops at Ponce Porto Rico, via New York Acting assistant-surgeons Azel Ames from Washington D C Clarence M Spalding from Rochester, N Y, and Halsey L Wood from New York City To duty with troops at Chickamauga Park Ga Brigade surgeons U S Vols Charles Adams, Oscar Le Seure, John L Macumber, Bial T Bradbury and Henry H Lee, with the following acting assistant surgeons Milton D Norris from Baltimore, Md, Wm G Young from Grand Rapids, Mich, Frank A Roberts from Camden N J Wm P Earle from Herkimer N Y, Josiah W Richards from Slatington, Pa, James A Keown from Lynn, Mass, Charles A Cattermole from Lansing, Mich Albert N Jacob from Philadelphia Pa, Dwight B Taylor from Norwalk, Ohio Chas H Stoddard from Milwaukee Wis, Andrew Godfrey from Ambler, Pa, Chauncey T Scudder and Chas I Woolford from Baltimore Md To duty with troops at Huntsville Ala Major Chas M Gandy brigade surgeon with the following acting assistant-surgeons Geo F Jennermann from Washington D C Charles C Jolliffe from New York City, Gustavus C Thieme from Baltimore, Md, Chas H Andrews from Buffalo N Y, and J Frederick Haller from Providence N Y To duty at Camp Alger Fall's Church, Va Chief Surgeon Francis R Perceval from Washington D C To the general hospital Fort Myer Va Major John E Woodbridge, brigade surgeon, and Acting Asst Surgeon D H Lamb from Owosso Mich To duty with troops at Chickamauga Park, Ga the following acting assistant-surgeons Duncan S Worth from St Louis Mo Herbert M Huston from Ruthven, Iowa, John B Alcorn from Gallipolis Ohio, T H Lander from Canton Ohio Harry A Barnhardt from Philadelphia Pa Wm E Stemsen from Kansas City Kan E D Meeker from Trenton Mo and A G Donaho Jr from Hartsville Tenn To report to the commanding General at Ponce Porto Rico, for duty with troops proceeding via Fort Monroe Va Acting Asst Surgeons William J Hughes from Baltimore, Md John N Goltra from Buffalo N Y Michael E Hughes from Adams, Mass and Compton Wilson from Norfolk, Va Via Charleston, S C Acting Asst Surgeons Frank I Disbrow from New York N Y, *James Reagles* from Schenectady N Y, Charles H Farr and Edward A Southall from Buffalo N Y and Harry Street from Baltimore Md To the 4th Army Corps at Huntsville Ala Lieut Col R M O Reilly, chief surgeon of volunteers From the 4th Army Corps to Ft Ethan Allen Vt Capt H D Snyder Asst Surgeon U S A To report to the commanding General, Camp Wikoff Montauk Point, L I for duty with troops Major John P Dodge Surgeon U S Vols Major Leonard B Almy chief surgeon of volunteers from the 2d Army Corps Capt F A Winters Asst Surgeon U S A and acting assis*tant Surgeons Joseph M Heller from Ft* Washington, Md and William F Skinner from St Thomas Pa To the Dept of Santiago reporting to the commanding General Lieut Col Valery Havard, chief surgeon of volunteers, as chief surgeon of the Dept, from duty with the 5th Army Corps Capt W F Lewis, Asst Surgeon U S A to accompany the 5th U S Infantry from the United States, and the following acting assistant surgeons proceeding via Tampa, Fla W L Coleman from Houston, Texas, John F Cronin from Savannah Ga L De Poorter from New Orleans, La, John B Sewell from Baldwin La W H Aylesworth from *Fairfield, Iowa* E J *Kenworthy from Tryon* N C Louis J Genella from New Orleans, La G W Luster from Utica Miss, J M Lindsley from Nashville, Tenn E F McClendon from Smithville Texas W E Moody from Hermanville Miss, W H Reynolds from Packsville S C O W Stone from Bay St Louis Miss Batt Smith from Wharton Texas and A L Izlar from Ocala, Fla From the 5th Army Corps to Washington, D C for instructions Lieut Col Benjamin F Pope chief surgeon of volunteers To the U S hospital ship *Missouri* Acting Asst Surgeon John E Brackett from Washington D C To the U S general hospital *at Montauk Point, L I Acting Asst Surgeons E Nunez from Philadel*phia Pa and Frank Donaldson from Washington D C From the U S general hospital Key West Fla to Key West Bks Acting Asst Surgeon Geo R Plummer To the U S General Hospital, Ft McPherson, Ga Capt W E Purviance Asst Surgeon U S A from Ft Morgan Ala, and Acting Asst Surgeon John H Grant from Buffalo N Y To the U S general hospital Ft Myer, Va Acting Asst Surgeons Geo W Pattison from Buffalo, N Y, and Geo M Bradfield from Philadelphia Pa

Promoted —Major Victor C Vaughan from surgeon 33d Michigan Infantry *to chief surgeon of division U S Volunteers*

Resigned —Major Chas M Robertson chief surgeon of volunteers Major Henry G Fish surgeon 3d Regiment volunteer cavalry Major John W Harriman 50th Iowa Vol Infantry and Lieut James A Toole Asst Surgeon, 3d Regiment volunteer infantry

Died —Major Lawrence Smith Surgeon U S Vols on the hospital ship *Relief*, while en route from Ponce, Porto Rico, to New York City

CHANGE OF ADDRESS

Boggers, Dr, from 308 to 220 W Chestnut Louisville Ky
Brothers, S from 244 to 227 Madison St New York, N Y
Bell, F A, from 157 N Akard to 389 Elm St, Dallas Texas
Crow, S C, from Ann Arbor to Mason, Mich
Coyle, J E from Jordan to Paducah Ky
Capron, V J, from Everett to Roche Harbor, Wash
Douglass, W H, from Benton City, to Rush Hill, Mo
Drew C A from Harding to State Farm, Mass
Gladmons E, from Washington D C, to Southern Pines, N C
Gibbs M D, from Greenwood to Macon, Colo
Jensen, P C from Chicago Ill to Manistee, Mich
Kenyon E L from People's Inst Bldg to 940 Madison St, Chicago
Montgomery, F from Clayton to Mt Sterling Ill
Rawley, W S, from 63d and Wallace to 750 W 63d Pl Chicago
Van Deman J H from Albionview to 9½ E 8th Chattanooga Tenn
Wenzlick, W from 331 E North Ave to 310 E Chicago Ave, Chicago
Welch J P from Glendale to Cottonwood Arizona
Ziliak, J E, from Ann Arbor, Mich, to Haubstadt Ind

LETTERS RECEIVED

Alexander A J, Mayfield, Ky Alexander, W H, Blakely, Ga Ayer & Son, N W Philadelphia Pa Atkinson, W B, Philadelphia, Pa, American Medical Compend Toledo, Ohio

Belfield W T Chicago Bruner W E, Cleveland, Ohio Blech, G, Chicago, Blech G M Chicago

Coley, W B, New York N Y Carroll, G T Jr, Marvin, Tenn Chicago Polyclinic and Hospital Chicago Chrisinger W H Trenton Mo Christian J M Washington, Ga Creighton B B, Manitou Colo Chatterton & Co A L, New York N Y Carston, E, P Madison Wis Caulkins N M, Manito Ill Charlton, N E Clayton N M

Dennis F W, Unionville, N Y Dwight H, Friendship N Y, Denver Chemical Mfg Co Denver Colo

Evans D W Dell Rapids, S D Edsen, C E, Denver, Colo

French Pinckney St Louis, Mo

Gihon A L Sykeville, Md

Hubbell, W B Elyria, Ohio, Hall, H C Detroit Mich, Hodghead, G A San Francisco Cal Hill E A, Chicago Hare, H A, Philadelphia, Pa Horlbeck H B, Charleston, S C Hannaford's General Adv Agency T W, London Eng Hessler, Robert, Indianapolis Ind Hendrickson, C R Yukon, Oklahoma

Johnson G W Chicago Jowers, J G Smith's Fork, Tenn Jarvis A A Faulkton S D, Jacinsky, J R, Crete Neb

Kendall L Sikeston, Mo, Katharmon Chemical Co, St Louis, Mo Kavit E Philadelphia Pa

Lee Elmer New York, N Y Lawrence, G H Galesville, Wis Lucas S T Van Hill Tenn Lane E B, Boston, Mass

Madden John Milwaukee Wis Mendenhall W, C Trotwood Ohio Merck & Co New York N Y Mogk W A Ann Arbor, Mich Moreland W H, Manitou, Colo Macintyre, David, London, Ont Moran, J Adair Mo

Patch Wm, Stanford Ill Pierson A Spencer, Ind Pynchon Edwin Chicago Phillips J P, Brockton Ala Pillsbury H H, Palo Alto Cal

Rodman, W L, Philadelphia, Pa Revue Generale de Pathologie Interne Paris France Revue Hebdomadaire de Laryngologie D Otologie, Bordeaux, France

Sears M H, Denver Colo, Stuver, E, Rawlins, Wyo Shelton A K, Oliver Springs, Tenn Stevens J L, Mansfield Ohio Shelby Mary C, San Francisco, Cal Saunders W B (2) Philadelphia Pa

Tyree J S Washington D C Taylor J H, Providence, Ky, Tuley, H E, Louisville Ky Trump J F Collinsville, Ohio

Wingate N O B Milwaukee, Wis Whitacre H J, Cincinnati, Ohio

Young, J W Afton, Iowa

The Journal of the
American Medical Association

VOL XXXI CHICAGO, ILLINOIS, SEPTEMBER 10, 1898 No 11

ORIGINAL ARTICLES

THE SURGICAL TREATMENT OF UTERINE MYOMATA

Presented to the Section on Obstetrics and Diseases of Women, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY HENRY O MARCY, MD , LL D
BOSTON MASS

In the rapid progress of events, the timid steps earlier taken in a most careful way, in the devising of better surgical methods, are now naturally considered of little importance However, historical studies are of interest and value of interest, in that they show the thoughtful, reflective judgment of men who considered the gravity of the problems upon which a life is ever more or less dependent, of value, since they point out the way, open ever, but only, to the real student who seeks the ideal, regardless of self-interest, and especially in the fruitage of averted suffering and the saving of life beyond the hope of previous generations

Based upon ample data, collected with painstaking care, a generation ago, military surgery was rewritten and stands today as the enduring monument of my early master, the late George A Otis, Surgeon U S Army The slowly developing interest in the surgical diseases of women was held in abeyance, as a seeming side issue of little importance at the close of our late war, and the few more courageous men who presumed to devote special study to this branch of surgery were looked down upon as men of doubtful importance, by the body politic, and unworthy the highest consideration of the public The late Dr Gilman Kimball of Lowell[1] appears to have been the first surgeon in the world who deliberately determined to attempt the removal of a large uterine myoma by abdominal section, which was followed by the recovery of the patient, and who planned step by step the procedures which he regarded essential to its accomplishment, and yet such was the criticism of his well meaning contemporaries that I was personally advised to avoid his acquaintance as detrimental to my professional repute

Dr W Burnham of Lowell, in 1853, only a little time previous to Dr Kimball's operation, removed a large fibroid tumor, followed by recovery of his patient However, he began his operation in the belief that it was an ovarian cystoma Dr Burnham passed a strong ligature through the neck of the uterus and tied it on each side Then to make doubly sure against hemorrhage, a ligature was placed round the whole neck The ovaries were removed The cervix was dropped and the ligatures were brought out at the lower angle of the wound They came away during the fifth week Dr Kimball operated very much in the same manner, but, eight months later, he reported that the ligatures were still attached Such was the heroic courage of Dr Burnham, guided by the conviction that relief should be rendered this unfortunate class of sufferers, that he continued to operate from time to time until 1876, in all fifteen operations with only three recoveries Heath and Charles Clay of Manchester, England, were doubtless the first who removed uterine fibroids by laparotomy, in 1843 and 1844, but both patients died

The first Boston surgeon and the third in America to perform suprapubic hysterectomy was Dr H R Storer, Sept 23, 1865[2] The criticism of his unwonted daring was almost universal and made so condemnatory that not one of his little circle of assistants was permitted to escape in sharing of it The short cycle of a generation which has supervened since that period has worked most remarkable changes In no other department of surgery have such striking victories been won as those now universally accredited to gynesic surgery Every American surgeon points with pride to our McDowell, who, although described as a frontiersman of the West, profited by his careful Edinburgh training, and in the freedom of his new surroundings dared to think for himself This opened the way for abdominal surgery with its many present brilliant subdivisions, in which every abdominal organ has been a sharer It would seem almost invidious to name any of the long series of most distinguished men who have labored to bring about, perhaps the greatest triumph of modern aseptic surgery, the present comparatively safe surgical removal of uterine myomata Indeed, it is not necessary, since to you the names of these leaders are not alone household words, but their personal influence has been felt and still governs a large share of those whom I have the honor of addressing

Schroeder, in 1874, advocated the treatment of the pedicle of fibroid tumors by including it in the lower angle of the abdominal wound after the method of Koeberlé of Strasburg, or returning it into the cavity of the abdomen, after ligating or cauterizing it much in the same way as advised for the treatment of ovarian tumors In December 1879, he had operated eighteen times with eleven recoveries, and he then advocated the amputation of the uterus at the level of the os internum The ovarian arteries were ligated on each side, and the cervix was tied in two portions, each including an uterine artery The uterine stump was cut V-shaped, the muscular walls were closed with coarser, the peritoneal covering with finer, interrupted silk sutures

In 1880, assisted by my distinguished teacher, Dr Gilman Kimball of Lowell, I removed the uterus for the first time for a large multiple myoma, when I adopted a modification of Schroeder's method, embodying all that is at present considered essential

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[1] Boston Med and Surg Jour , May 3 1855

[2] American Journal of Medical Science June 18[illegible]

Commencing on one side, I sutured the broad ligament with a double continuous tendon suture, extended so as to include the cervix The broad ligaments were divided, the peritoneum reflected from either side, the stump cut down conically, and this was covered over by an intrafolding of the peritoneum with a continuous sero serous animal suture The suture thus taken intrafolded the peritoneum evenly, while it was itself buried beneath it, leaving no line of infraction of the pelvic peritoneum Thus the stump, while dropped within the abdomen, was itself *extra-peritoneal* This method seemed to me so important an improvement upon that of Schroder that I reported it in a paper[3] read at the International Medical Congress, held in London, in 1881 I incorporated it in further detail in my address[4] upon "Fibroid Tumors of the Uterus," as President of the Section of Obstetrics and Diseases of Women, of the AMERICAN MEDICAL ASSOCIATION in 1882 In 1887,[5] I reported still further my experience with this method and emphasized its value I also pointed out the importance of dealing with the larger number of uterine myoma which develop in such a way as to have really no pedicle My last special contribution upon this subject was a paper entitled, "The Surgical Treatment of Non-Pedunculated Tumors," read at the AMERICAN MEDICAL ASSOCIATION in May, 1890 Up to that period, in common with nearly every abdominal surgeon, I had considered hemorrhage as the greatest of all dangers, and in order to lessen this, I advocated and used the so-called rubber dam, a thin sheet of rubber with a central reinforced opening which was stretched over the tumor and crowded down as far as possible to its base, around which was placed a constricting rubber ligature The suggestion of its use occurred to me from noting the admirable service rendered the dentist by the constricting rubber placed around the root of a carious tooth It served the double purpose of controlling hemorrhage and keeping the abdominal cavity entirely free from surgical contact This was applicable, however, only to movable tumors with a more or less distinct pedicle

Dr L E Stimson certainly made one of the most valuable contributions upon this subject by ligating the ovaries and uterine arteries preliminary to hysterectomy He did this at first in order to perform a complete hysterectomy, but the teaching that hemorrhage might be controlled by the ligation of these arteries bore immediate fruitage in lessening the almost universal fear by the surgeon of the danger of hemorrhage One has only to observe the enormous dilatation of the venous plexus, commonly accompanying large uterine myoma, to understand the reason of the fear and the real danger occurring from hemorrhage It was on this account that I included the entire broad ligaments on either side by my method of double continuous en masse suturing

In 1892, Dr B F Baer made his valuable contribution to this subject, in which he modified the operation of Stimson by ligating the arteries independently, while he left the cervical structures as a pedicle, quite in accordance with the method which I advocated The adoption of new methods with the improvement of aseptic procedures has firmly established hysterectomy as a well-advised and comparatively safe operation for the removal of large uterine myoma

Dr Joseph Eastman of Indianapolis has done valuable work in the removal of the uterus, including the cervix for fibroid tumors He met with exceptional success in so doing, and has devised instruments of special type, which are valuable accessories for this purpose

In an exceedingly interesting article, Dr Charles P Noble of Philadelphia, upon "The Development and the Present Status of Hysterectomy for Fibroid Myomata," gives Dr Eastman the credit of first covering the pedicle with a double flap of peritoneum, which he states was similar to an operation of Dr Emmett, performed in 1884 It will be noted, however, that I had deliberately effected this for the purpose of making the stump extraperitoneal in 1880, and published the same in 1881 and 1882

The method of intraperitoneal fixation of the pedicle was of very slow adoption owing to the excessive fear of surgeons lest secondary hemorrhage might ensue The fixation of the pedicle in the abdominal wall placed it where it could be kept under observation, but the mortality was so great that various ingenious modifications of this method were devised One of the most interesting of these was by Dr H R Storer of Boston, who sewed the pedicle, including also the ovarian tumors, into the lower angle of the abdominal wound for the purpose of shutting off the peritoneal cavity This he called "pocketing the pedicle"[6] This operation was revived by Dr H A Kelley of Baltimore, in 1888, with the addition of the use of a temporary elastic ligature

The first operation for the removal of the uterus, including the cervix (total extirpation), for fibromata, is accredited to Dr Mary Dixon Jones of Brooklyn, N Y, who operated Feb 16, 1888, whereas Dr Eastman's first total extirpation bears date of August, 1889

Dr H A Kelley furnishes a valuable contribution with the title "Hysterectomy by Continuous Incision from Left to Right, or from Right to Left," November, 1895 It shortens the time of the operation by commencing at one side, securing the vessels, dividing the cervix, and under tension made upon the tumor, the uterine artery of the opposite side is easily exposed and seized with forceps The division is continued until the ovarian artery is the last vessel secured The vessels are ligated, the stump covered over by a continuous over-and over-suture of catgut Emphasis is made upon the importance of commencing the incision upon the side where the ovarian vessels and tube are most accessible

There is an undoubted gain by this method in the saving of time, and the certitude of work accomplished, and very generally this is greatly facilitated by placing the patient in the Trendelenburg position Although this paper is not intended to be an historical treatise upon the subject, and as a consequent, many of the most worthy workers in this field have not been mentioned, it seemed to me necessary to follow the line of thought the development of which has brought the present operation of hysterectomy to such greatly reduced rate of mortality, a danger not so very much greater than that attending the removal of an ovarian cystoma It is very probable that further modifications of this operation will be adopted in the hope of giving still greater safety and satisfactory results The greatest reason, however, why recent statistics show such marvelous improvement lies in the fact, just as pertains to the history of ovarian cystoma, of the greater confidence of the surgeon, who, as a consequent, advises early operation for comparatively small tumors, which, only a brief period ago, would have been let alone without discussion of operative measures

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[3] Trans International Med Congress 1881, Vol ii, pp 233

[4] Trans Amer Med Asso, Vol xxxiii, pp 203, 204

[5] Histology and Surgical Treatment of Uterine Myoma President's address, Sect of Gynecology, Ninth International Mod Congres, 1887 Vol xi, pp 835-841

[6] Journal of Gynecological Society Vol i, p 150 Sept 23 1867

The ovarian cystoma which has obtained any very considerable size is likely to have become adherent, and these complications render ovariotomy much more serious and dangerous than the treatment of the pedicle per se On the contrary, the enlarging myomatous uterus is not likely to form adhesions until at a late period of its development, and its removal is attended with danger chiefly because of the basic structures which must be divided A supravaginal hysterectomy, therefore, must necessarily involve much greater difficulty than the separation of the ovarian pedicle

In a very large percentage of cases taken under advisement for operation the pelvic basin is filled with more or less of these growths, and the functions of the pelvic organs are so interfered with as to demand relief Here adhesions are common, the relationship of the structures disarranged, the intestines and bladder not rarely involved, and the ureters are in dangerous proximity to the growth to be removed Such cases will ever tax the most resourceful of operators, and the greater the experience the more will the surgeon consider the responsibility of his duty Oftentimes multiple masses are to be enucleated until at last the uterine arteries are seized upon well down in the cervical region After the tumor has been removed, the vessels ligated, not seldom a very important part of the operation consists in the reconstruction of the pelvic peritoneum I exercise more and more care in this direction with each succeeding year

Hemorrhage, the former greatest danger of the surgeon, is now practically eliminated from the problem, and septic infection, the peritonitis of the earlier day, is almost equally rare In my last hundred hysterectomies I have not had a single death from hemorrhage or from septic infection Almost the only cause of death has arisen from intestinal obstruction, induced by infractions upon the peritoneal surfaces, and it is in this I am exercising the greatest care I recognize the value and importance of time to the patient in prolonged operations, but the rapid surgeon never hurries "Well done is quick enough done," was the maxim of the elder Crosby The surgeon should ever be assured of the integrity of the intestinal canal, and as far as possible avoid conditions which may induce obstruction Adherent omentum not seldom leaves rents through which a loop of small intestine may easily slip All adhesions of the peritoneum should be closed This is easily effected by suturing in the same manner as that employed in covering the cervix with the intrafolded peritoneum A fine tendon is selected and by a loop stitch fastened in one end of the adhesion The full-curved small Hagedorn needle is made to penetrate through the healthy peritoneum a few lines from the edge of the rent and parallel to its long axis Each stitch is inserted directly opposite the emergence of the preceding one, in the same way on the opposite side of the peritoneal rent, and thus from side to side the suturing is continued until the rent is closed When drawn upon, this sero serous suture evenly intrafolds the peritoneum, while it is itself completely buried An exposed ureter may be easily covered in this way, and when the pelvic peritoneum is much disorganized I have not seldom sutured the peritoneum of the entire pelvic basin in even juxtaposition quite to the pelvic brim I emphasize this method of closing the peritoneum, especially of the pelvis, since I am sure by it little harm can come from the future disarrangement of the organs, that it does not interfere with the rectum or bladder, and that it does materially lessen the really very great danger of adhesive processes so liable to induce obstruction of the intestines and subsequent functional discomfort, while it is now recognized as by far the most common cause of acute intestinal obstruction

The variety of methods under discussion at the present time is limited chiefly to suprapubic hysterectomy as above described, to the removal of the uterus, including the cervix, to the saving of as much of the uterine tissue as possible when the myomata are small and not too numerous, and finally to the advantage of leaving the adnexa (the ovaries and tubes) when the conditions will permit Each of these different methods have certain possible advantages As I believe, for reasons already stated, the larger number of hysterectomies for uterine myoma should have a certain portion of the cervical tissue left Generally the operation is less difficult and more rapid The remaining structures furnish a means of support to both bladder and rectum, the vagina is uninjured and the relations of the pelvic organs are maintained in easy mobility, conditions having a value in marital life of great importance The objections to this are the possibilities of infection of the wound through the cervical canal and lack of drainage, where conditions of the pelvic basin may render drainage an important factor To my mind these criticisms are, at the most, of minor importance, since the cervical canal can easily be disinfected or the entire mucosa removed Should drainage seem desirable, and each year this is considered of less importance, it can easily be provided for by an opening through the posterior fornix

There are conditions in which it may be of decided advantage to remove the entire uterus Doyen of France has modified the technic of complete hysterectomy, which, briefly, consists in making forcible tension upon the uterus and myoma by drawing it forward over the pubis through the abdominal opening and then incising the vagina posteriorly This permits pulling the cervix upward into the abdomen, which makes tension upon the broad ligaments First one is divided and then the attachments of the uterus to the bladder are separated, and lastly the other broad ligament is divided These are seized and held by assistants during the operation and until the arteries can be independently secured It will be noted that by such a measure the operative field is brought clearly into vision greater safety as well as celerity attained since the relationship of the ureters intestines and bladder can be determined with much greater certitude After hysterectomy has been thus performed complete peritoneal closure of the pelvic basin may be made if considered advantageous This leaves a wound open only from below, which may be lightly packed with iodoform gauze Dr W P Allen of Cleveland has contributed a valuable article upon complete hysterectomy, in which he advocates two modifications of Doyen's method, both preliminary to the abdominal section The cervix is curetted and packed with antiseptic gauze, the vagina is carefully disinfected, the cervix seized with a strong pair of vulsellum forceps and drawn downward With the cautery the vaginal tissue about the cervix is dissected The advantages claimed are "1 Asepsis is secured with more certainty than by any other method 2 The division of the vaginal vault by the cautery is in most cases performed quickly and without hemorrhage If the cervix be very short or difficult to reach, as is sometimes the case when the fibroid is developed in the lower part of the uterus, its separation by the cautery may be unusually difficult It can, however, usually be accomplished" "The abdominal cavity is not opened from below A long pair of slender, curved forceps is now used to seize the tissue just behind the cervix at the point at which it is divided by the cautery The object of this pair of forceps is that when the abdomen is opened, the forceps may be pushed upward into Douglas' cul-de sac, and marking absolutely the vault of the vagina, enable the surgeon with certainty and rapidity to open downward into the vagina With long vulsellum forceps the cervix is firmly seized and drawn upward and backward into the abdominal cavity" Dr Allen thinks the operation of Dr Doyen as thus modified greatly shortens the time consumed in the removal of the uterus, while the intestines, ureters and bladder are much more easily avoided, and he recommends it for favorable consideration

By general consensus of opinion, little by little, the cautery has been relegated to history, and at present, when asepsis makes a certitude of primary union, the use of any means which leaves of necessity necrosed structures should, if possible, be avoided Dr Eastman's hysterectomy staff easily fulfills every purpose sought to be attained by Dr Allen with his fixation forceps to mark the point of posterior vaginal section

It not seldom happens that uterine myoma are found which may be advantageously removed, leaving the uterus more or less damaged or deformed Dr A Martin of Berlin was among the first and most earnest advocates of myomectomy More than ten years ago this seemed to me the ideal method, and I examined all the cabinet specimens preserved in the Boston and New York museums for the purpose of determining its possibility I also made a large series of sections of the smaller growths in order to establish the relation between the tumor and its parenchyma, the so called capsule

The accompanying photographs will show that this is developed from the deformed surrounding uterine muscular structure, and that the tumor itself usually receives its nutrition from it rather than by vessels directly penetrating its substance In one instance, however, I succeeded in injecting the vessels of the tumor through the uterine arteries Unfortunately, it happens that in the great majority of instances the myomata develop from a considerable number of independent centers, whatever may have been their cause and as a consequent the uterus can not be preserved intact, and the invading growths removed In exceptional cases this may and should be done In common with other operators I have not infrequently removed a considerable number of these growths, and do not recall a single case where convalescence did not easily follow The constricting rubber-dam is often of much service in this operation, since it may make the operation bloodless It is my habit to occlude the cavity with continuous tendon sutures and introflect the divided peritoneal surface over it The pendulum of opinion upon this operation swings to both extremes Dr Noble above quoted, closes his paper as follows "Myomectomy is the ideal operation for fibroid tumors The next advance in the treatment of fibroid tumors will be the acceptance of early operation, with the definite purpose of substituting myomectomy for hysterectomy in women of child bearing age in cases having a small number of fibroid nodules" At the last meeting of the British Gynecological Society, Dr W Alexander of Liverpool urged the enucleation of multiple uterine myoma as a favorite alternative operation to hysterectomy, and that it being a non-mutilative operation it presented a marked advantage over total removal of the uterus The society did not accept his views, but rather Mr Bland-Sutton's terse summary, who claimed "that in most cases such tumors were developed after the child-bearing period, when the uterus was a non-important organ He felt sure that a woman was much better off with ovaries and no uterus than with uterus and no ovaries" Dr J F Baldwin of Columbus, Ohio, advocates in abdominal hysterectomy the fixation of the round ligament between the cervical flaps, which holds it *in situ* by buried animal sutures He claims the advantage to be in the fixation of the parts and preventing prolapse of cervical stump in the vagina

There can be no doubt but that the improved operations for the comparatively safe removal of large uterine myomata had not alone its inception, but its development to its present successful status in very much the larger degree with American surgeons, the credit of which should be given to American surgery Within the last half decade, under the leadership of Doyen, Segmund, Richelot and others, vaginal hysterectomy has been successfully developed, especially for the removal of small uterine growths, quite beyond anything attemped in this country in this operation Vaginal hysterectomy for cancer is more especially a German operation in its origin Intrauterine myoma for a long period have been successfully removed per vagina by morcellement, even when of very considerable size At an earlier period I removed a number such growths by this method, one weighing four pounds, where I am convinced I should now perform abdominal hysterectomy, and this because of our greater confidence in an improved technic for abdominal hysterectomy The French school have advised special methods for operating upon the pelvic structures through the vagina, here, usually performed by the abdominal route Their brilliant successes were at once accepted with approval by some surgeons in America and have at present their advocates It is very probable, however, that this vaginal operation has been popular in France in a large degree owing to their comparative unfamiliarity with abdominal hysterectomy, which they are pleased to style "the American operation"

Blind surgery is bad surgery, and on this account vaginal operations upon the pelvis must ever be held to a certain degree in criticism If, for instance, a small uterine myoma is to be removed, the choice of the vaginal route, under certain conditions, might advantageously be made In a large degree this too is an American operation, first advocated and performed by our lamented fellow-countryman, Dr Robert Battey of Georgia In 1879 I first removed a fibroid tumor through Douglas' cul de sac (a myomectomy), saving the uterus However, in much the larger class of cases, where it is judged wise to remove uterine myomata sufficiently small to accomplish the work through the vagina it is undoubtedly better to operate by the abdominal route, since this is the class of cases most suitable for myomectomy

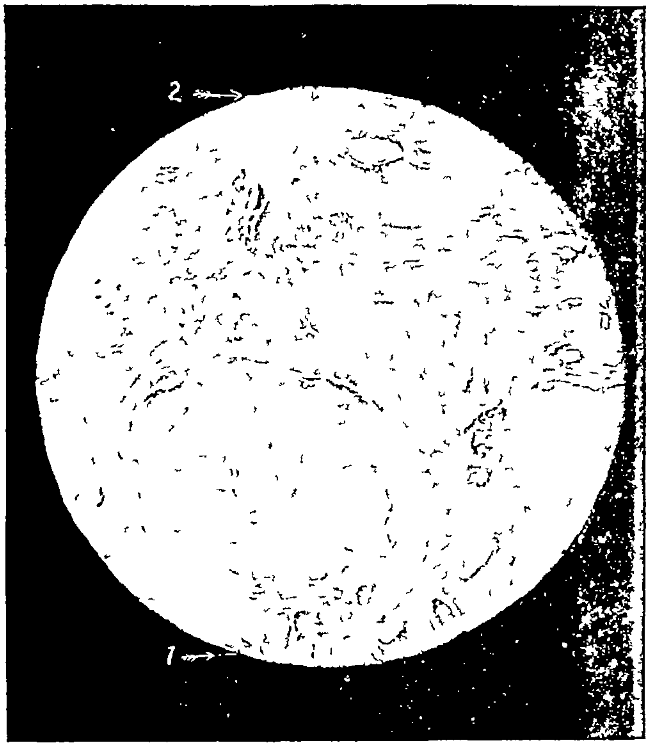

Fig 1 —1 small uterine myoma Singular resemblance to a fetal head 2 uterine cavity Specimen injected vessels much enlarged

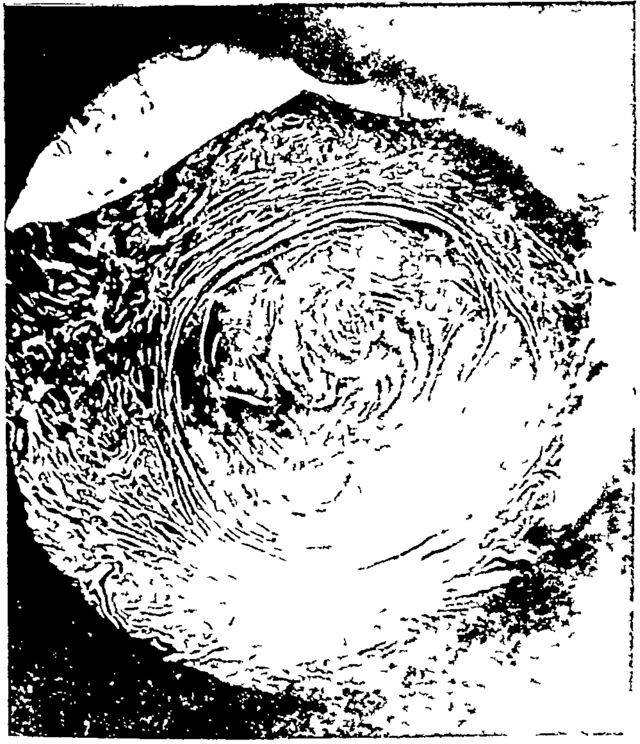

Fig 2.—Uterine myoma with multiple centers Capsule formation well pronounced

Little further need be said in reference to the technic of the operation It must be conducted as far as possible under strict aseptic conditions An uninfected abdominal cavity, left in good condition, should be closed without drainage The abdominal

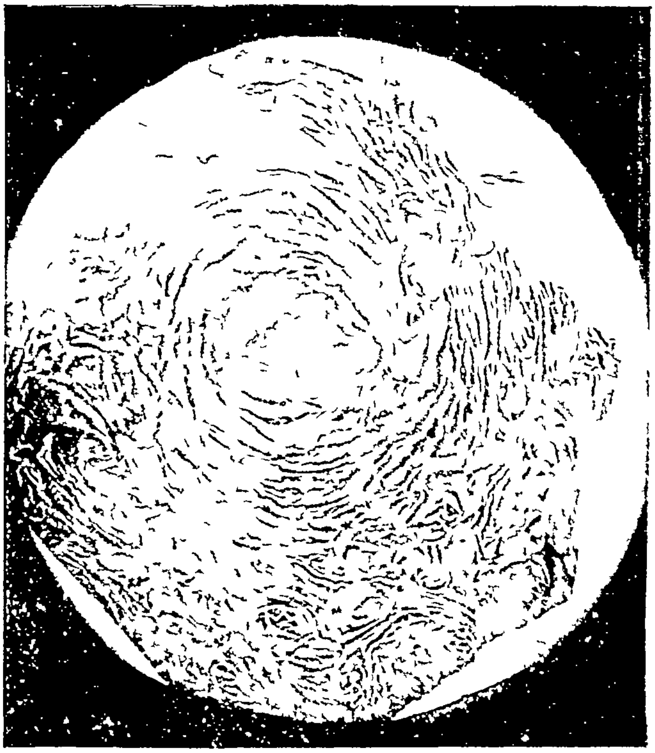

Fig 3 —Section from just over a small myoma The encircling blood vessels and capsular formation well shown

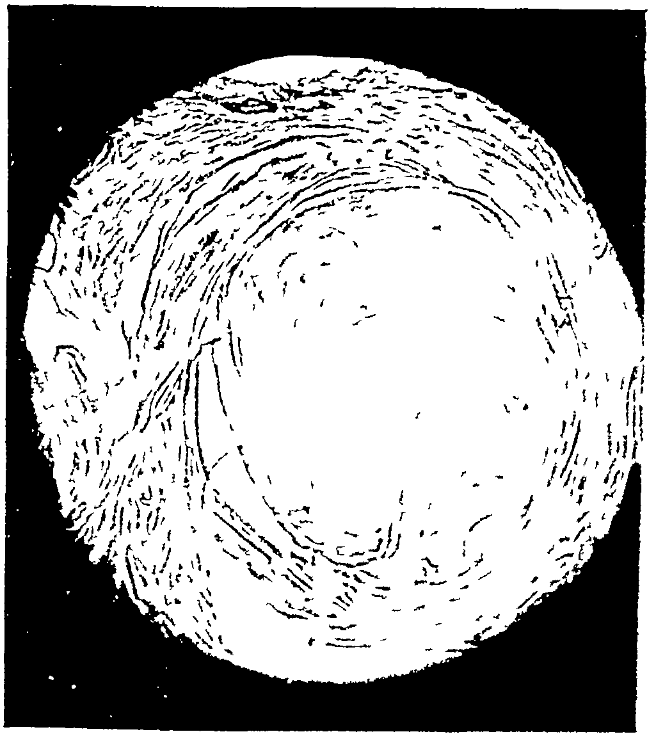

Fig 4 —Large [illegible] greatly enlarged

wall is reconstructed by independent lines of continuous buried tendon sutures I consider the peritoneum and thick fascia can be much more satisfactorily reunited by the use of the double continuous tendon suture A subcuticular, fine tendon suture is much to be preferred for holding in coaptation the edges of the skin The final dressing consists in the application of contractile collodion, holding in solution iodoform, reinforced by a few fibers of absorbent cotton Unless the tumor is of exceptional size the patient is usually more comfortable without the application of an abdominal bandage The advan-

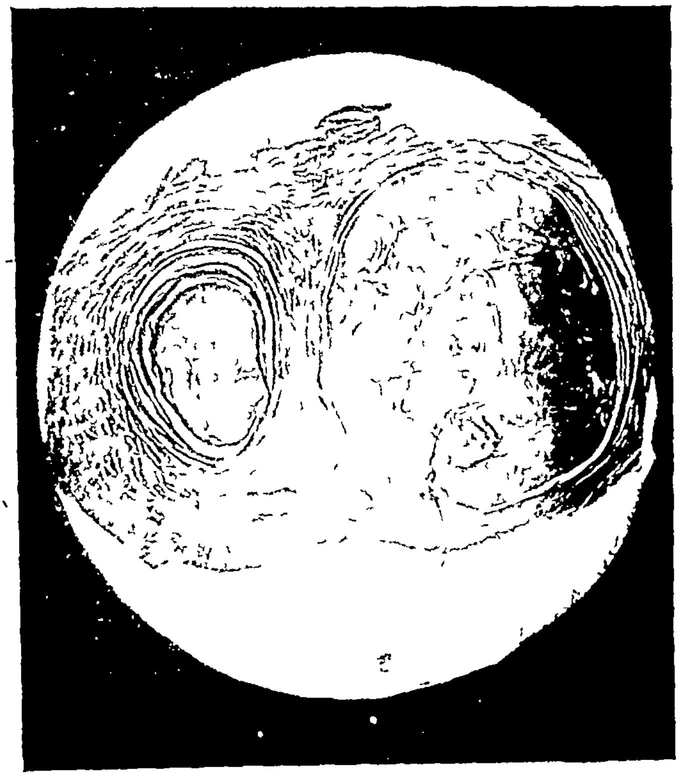

Fig 5 —Double uterine myoma Capsules well developed Tumors slightly vascular

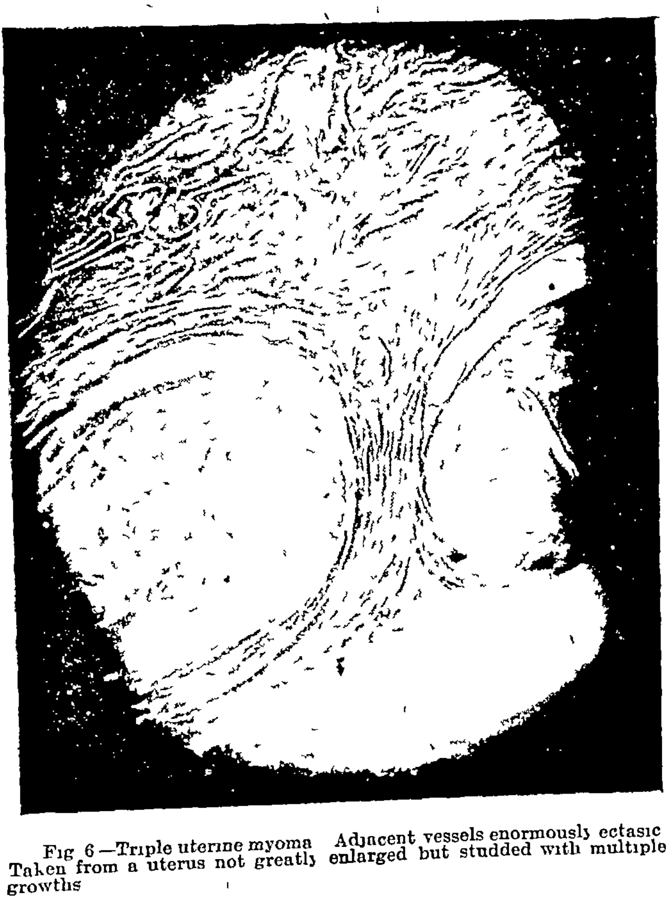

Fig 6 —Triple uterine myoma Adjacent vessels enormously ectasic Taken from a uterus not greatly enlarged but studded with multiple growths

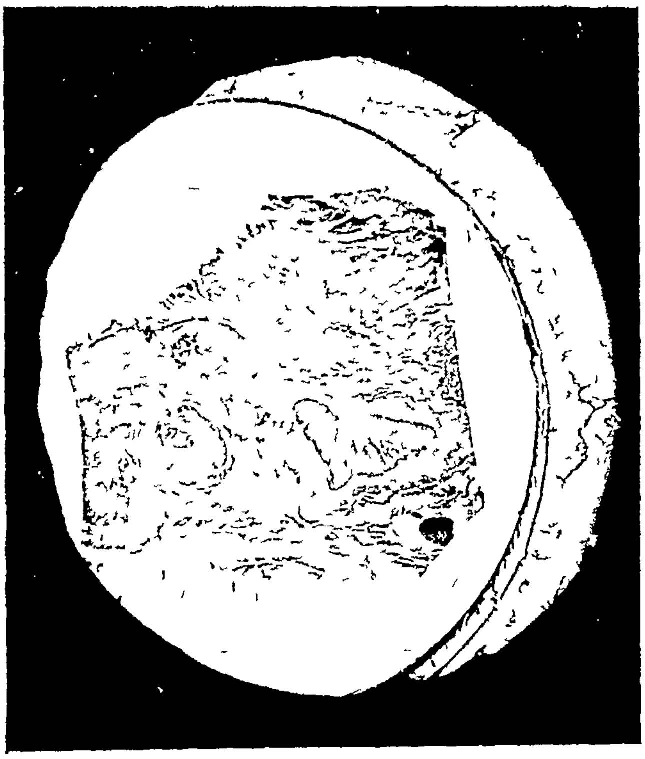

Fig 7 —Calcified tumor Infiltration by lime salts Uterine myoma showing process of calcification The dark spots mark the lime deposit

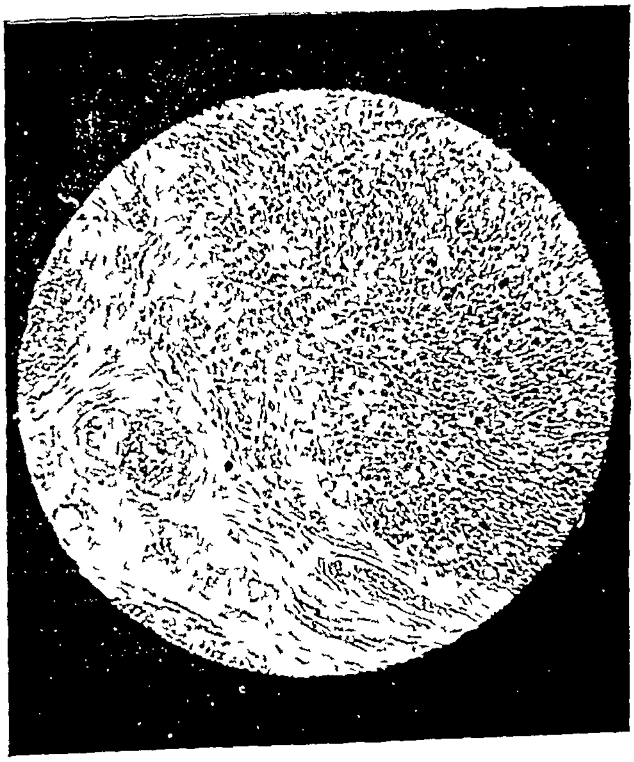

Fig 8 —Section shows the cell disposition In the larger portion the cells are cut transversely

tage derived from suturing the abdominal wound in layers is so apparent that I find its adoption is becoming more and more common I have thus sutured since my first advocacy of buried animal sutures quite twenty-five years ago, and for fifteen years with no other dressing than the collodion seal Subsequent hernia does not occur, and in over eight hundred laparotomies I recall but one case of subsequent hernia, and this in a case where the abdominal wall had become excessively thin from a large fibroid tumor

A final question for consideration is the ever recurrent one When shall we operate? As in ovarian cystoma, so here the pendulum of opinion constantly varies Without doubt the larger number of abdominal surgeons are operating on cases today, which they would have judged ill advised four years ago In young women, small growths which cause pain, excessive menstruation and interfere with the functions of the pelvic organs should be no longer subject to unsatisfactory medication, since operation in these cases gives the lowest rate of mortality, and not seldom by a myomectomy results in complete restoration of unmutilated organs with restored functions There is a general consensus of opinion that the patient will profit less by the cessation of the menopause than was earlier believed

Many of the more dangerous growths develop comparatively late in life, a considerable percentage of which go on to most extraordinary development regardless of menstruation When the patient is still within the cycle of menstrual life and the ovaries comparatively healthy, it is probably wiser not to remove them It is my own belief that in the future a wise conservatism will give an approval for operative measures upon a very considerable class of invalids, now usually permitted to drag out a more or less wretched life of suffering I would, however urge the limitation of the operation to the practice of men who have equipped themselves in a special manner for this class of surgery, since it is not alone theoretic knowledge that he must master, but more especially a technic that shall make him at once an artisan and an artist

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THE INDICATIONS FOR PLASTIC SURGERY UPON THE CERVIX UTERI, TRACHELOPLASTY, WITH A NEW METHOD OF OPERATING.

Presented to the Section on Obstetrics and Diseases of Women, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY H P NEWMAN, A M, M D

CHICAGO

The operation known as trachelorrhaphy or Emmet's operation, has been in vogue for thirty-five years It has had a brilliant history and has won honors for the originator wherever gynecology is practiced, but like many good things it is not only capable of improvement, but has of late been quite generally superseded by operations in the nature of amputation, plastic work looking toward removal of diseased tissue, restoration of organic function, and remodeling of the cervix to as nearly normal outlines as possible These operations are commonly known as amputation of the cervix, but only for want of a better name, since it suggests the crudeness of the former excision of the neck of the uterus, and in no way conveys all that is comprehended in the newer work There is a wave of interest abroad concerning these improved methods, and many reports of admirable work are being made in foreign journals In our own country Emmet himself concedes that his original operation for pathologic conditions following laceration has had its day, and suggests for it honorable retirement to a few well-selected cases On pages 351-2 of the *Am Gyn and Obstet Journal*, Vol ii, 1897, he says "Since the writer's attention has been drawn more particularly to the subject of amputation of the cervix uteri as a necessary operation after laceration, he has realized that a very important change for the better has taken place within the past twenty years in the practice of obstetrics As the custom has now become a general one to employ every antiseptic precaution in obstetric practice, when laceration of the cervix occurs the efforts of nature thus assisted are sufficient in all but the worst cases to fully repair a very large proportion of tears The writer [Emmet] has also recognized the fact that within a few years past a comparatively smaller number of this lesion which need 'Emmet's operation' for repairing the cervix are now seen in practice The condition has become directly reversed within a few years past, and *now*, with but few exceptions, amputation is the proper means to employ 'Emmet's operation' fully filled its place under the then existing circumstances and still does so whenever indicated, but the author (Emmet) now offers through the publication of this paper, an equally original operation (amputation) for the relief of pathologic laceration of the cervix as it is now met with " Elsewhere in the same article under the title "When to Amputate in Preference to Repair of a Lacerated Cervix by the Usual Method," Dr Emmet says "For many years I held the opinion that it was possible, in almost every instance by careful local and general treatment to restore in time the lacerated tissues to so near the normal condition, that when the operation had been properly performed complete restoration would eventually take place with the result of bringing about involution of the uterus But I am now of the opinion that there are exceptional cases to this rule, where under certain conditions it is better surgery to amputate a portion or the whole cervix, eased tissues are completely removed and the wound afterward treated in the manner I shall describe"

While agreeing with the gifted author as to the desirability of the amputating operation, I claim that that mode of procedure is most excellent which requires least preparatory and after treatment and which exacts least in the way of time and patience from patient and physician There is a reaction against the tedium of routine local treatment that bids fair almost to go too far and abrogate it altogether It is a detriment to any patient to be subjected to prolonged topical treatment It has the tendency to establish the habit of invalidism, and to fix the attention inward, which is not a healthy stimulus to recuperation I have for some years sought to do operative work of such a character that as much as possible may be accomplished at one sitting, and the patient led to expect prompt recovery and encouraged to consider herself well and free from bondage to the gynecologic chair My results have so far been satisfactory, and it is to call attention to a method of cervical operation which meets these requirements that I have selected this subject My manner of operating differs materially from any so far described, and possesses certain advantages which I hope will commend themselves in comparison with existing modes As yet, there is no unity in choice of technique Dr Von Ramdohr said recently (*Am Gyn and Obstet Jour*, page 711) "As long as there are twenty-five methods of doing things none of them is good" This has a measure of truth in it, but the progress of surgery is marked by the passing of modification after modification of good methods, and only in such a way can perfection be reached

The poor results complained of by some good operators with amputating operations, I believe to be due to faulty technique That is to say that following the older methods of Schroeder, Emmet, Pozzi and others so far described, does not attain what is desired, because these methods through inherent faults do not meet the indications The following criticism is made by Dr A Palmer Dudley of New York [1] "In closing the wound one is very apt to narrow the canal to the extent of obstructing the escape of the normal discharges from the uterus, thereby injuring the woman instead of benefiting her Many here can recall cases in which, before operating for laceration of the cervix, they could recognize no disease of the uterine appendages while afterward disease developed Why? Simply because in repairing the cervix they closed it, prevented the normal discharge from the uterus, induced continual passive congestion of the endometrium, and the disease then traveled up the tubes"

Early in the history of the operation Pauly is said to have declared that "Of all surgical operations the excision of the neck of the womb has hitherto been the most murderous"

Improvement in technique in many quarters has advanced the operation rapidly in favor, and it is due to the literature of gynecologic surgery that such progress should be duly reported In giving a description of my own method, I wish to touch upon the indications for which it is used, and to call attention to the development of opinion in this regard

Dr Thomas, in the fourth edition of his work on "Diseases of Woman," published more than two decades ago, gives as indications "Malignant disease, great enlargement from cervical hyperplasia, longitudinal cervical hypertrophy, conical and projecting cervix and granular or cystic degeneration of intractable character" I have already spoken of the manner in which present authority sanctions its use in cases of laceration and in addition we now consider chronic metritis and cervicitis, certain forms of displacement, what is known as congenital elongation or infantile uteri and stenosis as calling for such operations Concerning the latter I find this comment in Gould's Year Book for 1898, page 534 "True cervical stenosis is a comparatively rare disease, it exists most often in the mind of the physician"

Notwithstanding this formidable comment upon a former paper of mine presented to this society, a large experience in the reality of the thing only confirms me in the opinion that cervical stenosis, whether of traumatic or congenital (?) origin, is yet a potent factor in the etiology of much pelvic pathology and an indication of radical error in the hygiene and growth of women

What is known as congenital stenosis is rarely the result of embryonic divergence, but rather persistence of the infantile condition through lack of proper development at the developmental period

In advocating amputation of the cervix for inflammatory conditions L Touvenaint (France) says "The curette, which gives excellent results in chronic corporeal endometritis, is altogether insufficient in cervical endometritis The operation gives brilliant results preceded by curettage We say 'preceded by curettage' because it is rarely the case that inflammation of the cervix has not been propogated to the cavity of the body, and the endometritis become general It has certainly been established that amputation is the operation of choice" He further says "Amputation of the cervix is not done solely for the sake of removing a part of the organ, it possesses also the advantages of inducing profound modification in the vitality of the entire uterus, so that this undergoes a veritable involution" Mundé, in an article on trachelorrhaphy in 1889, said "When a superficial layer of an organ which is affected by hypertrophy is cut off, a marked tendency to diminution in the bulk of the remaining tissue shows itself' Curettage alone can not accomplish this result, although it can do much, and in connection with excision is a valuable adjunct Not only the cervix, but its mucous lining differs from that of the uterus above in essential particulars, and chronic inflammation creates a dense, firm tissue with deep glandular involvement which only a sharp curette thoroughly used can remove Such removal is apt to result in constriction of the canal amounting to a severe stenosis or even atresia unless followed by tedious and objectionable after-treatment As I have said, the ideal operation should attain restoration of physiologic as well as anatomic conditions, and with the smallest expenditure of time and the least possible manipulation

The following are details of the method which I have found meet these requirements better than any of which I know The patient, prepared as for any minor gynecologic or plastic surgery, is placed in the lithotomy (extreme dorsal) or Sim's position, and the cervix drawn down with the bullet forceps or the double tenaculum The cervix is dilated and the uterus curetted in the usual manner Curettage is used only when the indications for its employment exist, but these are so constant as to make it virtually the rule The blades of the bullet-forceps are then reversed and replaced within the cervix so that their points are directed laterally from within outward By using them in this manner traction is made upon the inner area of the cervix leaving the anterior and posterior walls free for making the flaps The cervix is now transfixed by the knife here exhibited, (Fig 1*a*) and a clean cut made from above downward, first in the posterior lip (Fig 1)

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[1] Tr Gyn Soc Vol xx, page 305

The anterior lip is transfixed in a similar manner about 1 cm or 1½ cm in front of the other and cut in the same way

The intervening plug of diseased tissue is now removed by a single cut or two of the curved scissors, the bullet-forceps having been changed to a lower position to allow of this (Fig 2) If the flaps have been properly made they will now fall together, (Fig 3) and inward, so as to assume the appearance of a normal cervix, and will require only the simplest suturing to keep them in this position The first suture is passed through the center of the anterior flap a centimeter or more from its cut edge and brought out about three fourths of a centimeter within the cervical canal Two parallel stitches are now placed at each angle of the cervical canal Silkworm gut is the suture material which I commonly use

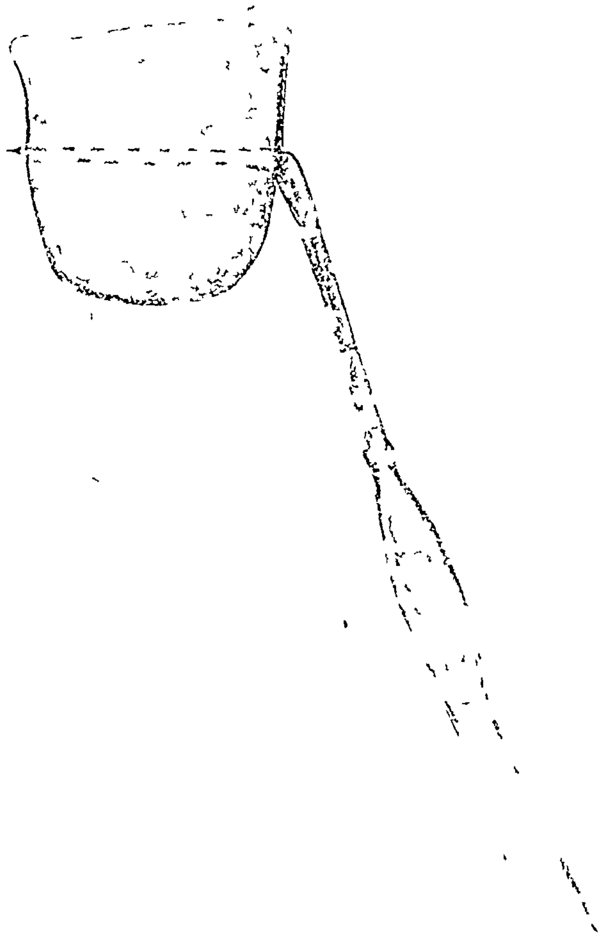

Figure 1

The posterior lip is similarly treated except that it is somewhat easier in this situation to pass the sutures from within outward rather than the reverse as in sewing the anterior lip Two sutures are now passed, as in trachelorrhaphy through the outer angles of the wound, which gap slightly after the turning in of the flaps For nice adjustment of the stitches and for ease in removal I am in the habit of treating them as follows In tying the sutures one end of each is left long, and these long ends are grouped by tying them together according to their location The three anterior sutures form one group, the three posteriors one group, and the two lateral sutures are tied together a pair on each side, making four groups in all (Fig 4)

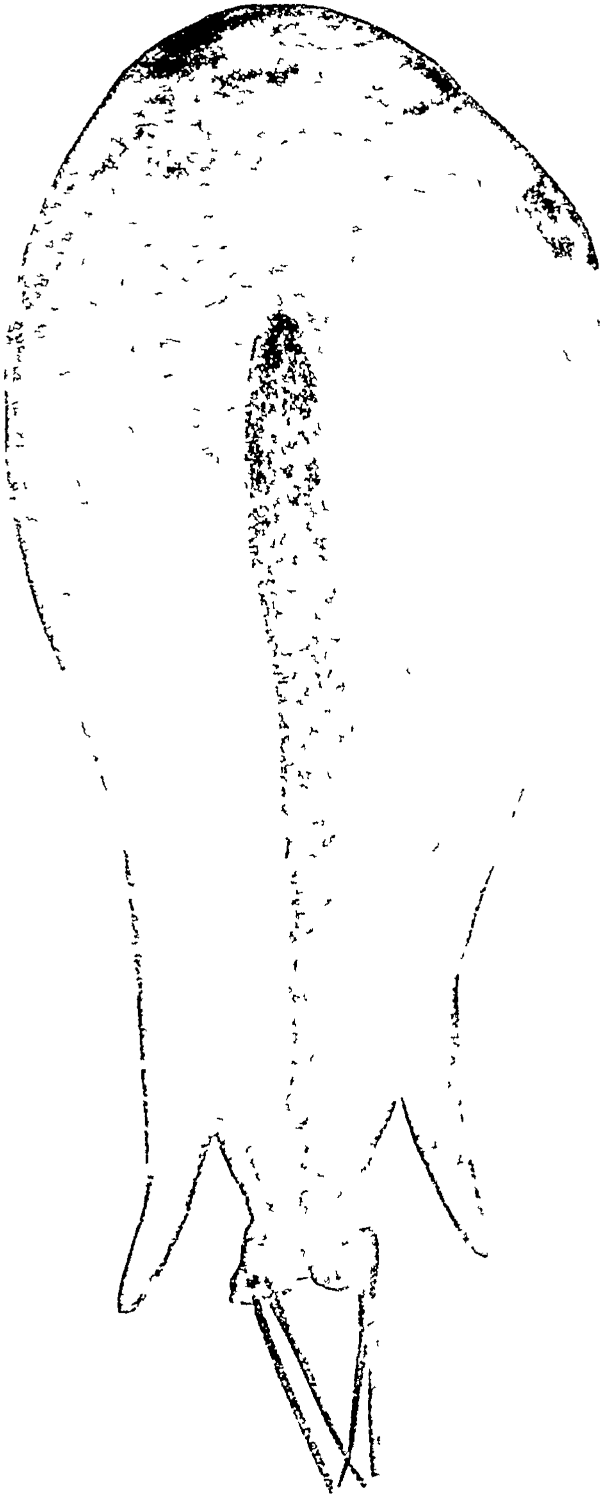

Figure 4

A uterine tampon of iodoform gauze or wicking is now inserted by means of this forceps and tampon carrier A projecting strand is attached to the vaginal tampon (also of gauze) in [illegible] that both may be removed without undue [illegible] th parts If no accessory work is done the usual perineal dressings are applied and the patient put to bed

The external genitals are bathed with antiseptics after micturition but no douching of vagina or disturbance of tampons is allowed until the second or third day, when the entire tampon is removed and not replaced Vaginal douches of 1-4000 bichlorid are then used twice daily The sutures are removed at the end of two weeks, when the patient can be up

The advantages claimed for this method of operating are 1 The quickness and ease of operating by the knife here presented, the manner of making the flaps, transcending in certainty and safety of execution the ordinary methods of excision 2 Clean, smooth-cut surfaces which are obtained without haggling of tissues, always most desirable in plastic surgery 3 The easy approximation of flaps and the avoidance of all hemorrhage beneath them by deep placing of suture and compression of the flaps 4 The accurate approximation of mucous membrane to mucous membrane thus avoiding granulating surfaces, formation of cicatrix and constricting of the canal This feature, which obtains also in Schroeder's operation and modifications of it, is of great importance and a decided advantage over trachelorrhaphy, especially where the entire cervical mucous membrane is removed 5 The certainty of obtaining a permanently patulous canal and a well-formed cervix with pronounced reduction of the hyperplastic uterus 6 The simplicity of the after-treatment

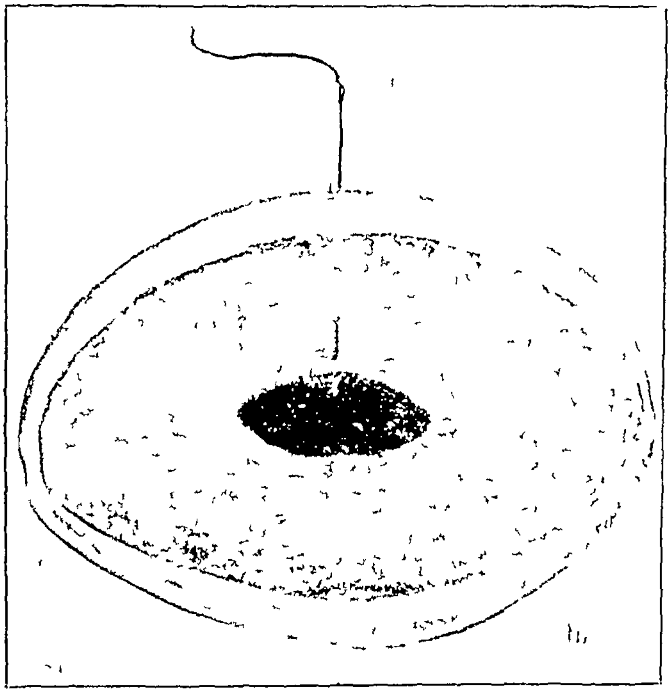

FIGURE 3

I would urge the necessity in doing plastic gynecologic work of fortifying it by doing all accessory operations at the same time The neglect to do necessary complementary operations brings frequent failures The operation I have described is seldom called for alone While it will often correct a simple displacement of the uterus due to inflammatory conditions with increased size and weight, by correcting the lesion of the cervix and accompanying metritis and stimulating involution, it is not to be advocated as a substitute for the Alexander or other suspensio-uteri procedures It will not restore the proper sustaining power of the pelvic floor, but it will be in many cases a valuable adjunct to any operation undertaken for these conditions Dr E E Montgomery says "When a condition is due to lesions during the delivery of the patient, we have a large heavy uterus In any case, in order to restore the patient to a normal condition the first aim should be to reduce the size of the organ This is best accomplished by amputation of the cervix The metabolic changes which take place as a result of the operation and the rest in bed will lead to a considerable reduction in size "

Besides correcting existing lesions and encouraging a return to the normal state it may be a determining factor in preventing the progress of malignant disease and the extension of infectious or inflammatory conditions to the adnexa The cervix is an etiologic factor in many diseases, it is a storehouse for infectious germs, it is the portion of the uterus which suffers most from maldevelopment at puberty, thus causing dysmenorrhea, sterility and concomitant evils, is most frequently injured in childbirth, so that until preventive medicine shall have succeeded in eradicating the more common causes of cervical diseases this organ will continue to offer wide opportunities for plastic surgery of the most careful and progressive kind

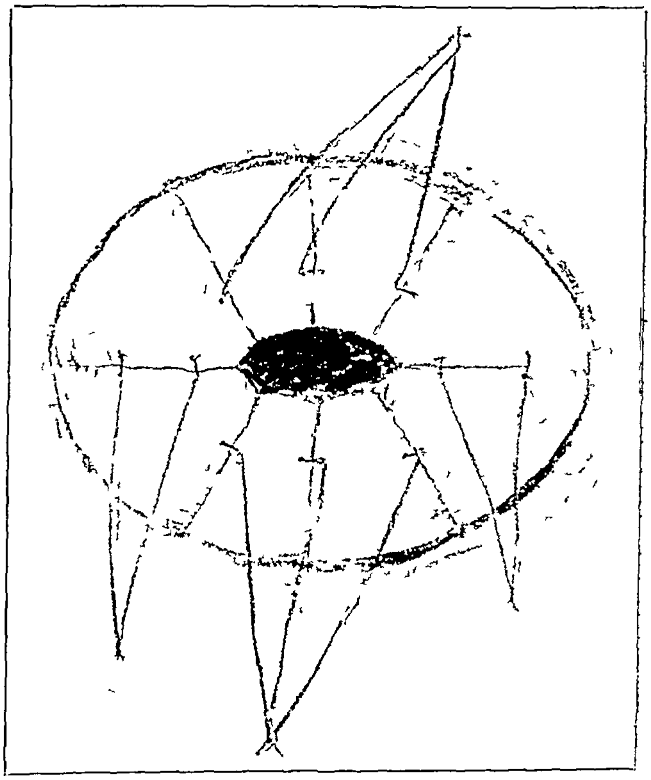

FIGURE 4

In conclusion, I would offer a suggestion as to the nomenclature of the operation *Amputation of the cervix* is as much too narrow a term for such work as trachelorrhaphy is too broad to be monopolized by the operation devised by Dr Emmet Much plastic work upon the cervix might be known as trachelorrhaphy but since this name has been applied for so long to one class of methods exclusively, we are forced to find something more distinctly descriptive for the newer work

Amputation conveys the idea of taking away of an organ, whereas this work is really conservative, plastic surgery, nothing is removed but diseased or adventitious tissue, and I suggest that it be designated in future by the expressive and inclusive term *Tracheloplasty*

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ANTERIOR COLPOTOMY WITH REMOVAL OF ONE OVARY AND BOTH TUBES—VAGINAL FIXATION

Presented to the Section on Obstetrics and Diseases of Women at the Forty ninth Annual meeting of the American Medical Association held at Denver, Colo , June 7-10, 1898

BY WILLIAM N SWIFT, M D ,
NEW BEDFORD MASS

Mrs L R , aged 21 years, married two months Probable gonorrhea two years before, since that time, more or less pelvic pain and very marked pain at menstrual periods Since marriage has had great pain across lower part of abdomen Coitus so painful that it became impossible Examination showed uterus much enlarged, very sensitive, retroflexed and somewhat toward the left side Enlarged tubes felt on both sides Operation, Aug 9, 1897

The bladder was separated from the uterus without difficulty Plica opened with scissors Extensive adhesions over the fundus of uterus and tubes The uterus was seized with double hooks and delivered through the wound with some difficulty The left tube and ovary were firmly adherent The tube was freed from adhesions and on being opened was found to be entirely disorganized and occluded It was removed; but the ovary was left as it was—normal The right ovary and tube were bound down by strong adhesions The ovary contained one large and many small cysts On section, it showed no normal tissue The tube was also much thickened, and both ovary and tube were removed The uterus was fixed by three silkworm gut sutures through the vagina, peritoneum and uterus itself, then peritoneum and vagina on the other side After these sutures were put in place, the peritoneum was sewed up with a continuous catgut suture, and later the wound in the vagina After coming out of ether, the patient showed no symptom of shock She passed urine on the morning of the second day Examination at present shows no tenderness over scar in the vagina Uterus small, in normal position, not tender Some tenderness over left ovary, which can be plainly felt Patient feels well and has worked since two months after operation Coitus has not been painful Has menstruated regularly, with only at times slight pain over region of left ovary

There are several points in this case that are interesting First the question of abdominal or vaginal section in such a case The chief advantage of the vaginal route is that it is a much less serious operation than abdominal section There is no abdominal scar with risk of hernia The patient has much less discomfort and pain immediately after operation She can turn on her side at once and is usually up in two weeks Another great advantage in vaginal section is the ease with which any operation can be done on the uterus, tubes or ovaries, after they are delivered A small vagina makes the operation difficult even with lateral incisions A fixed uterus that can not be drawn down at all makes the operation impossible

The method of opening the peritoneal cavity which I employ is, practically the one described and practiced by Professor Duhrssen of Berlin The parts are made as aseptic as possible The cervix is then dilated, curetted with a sharp curette, afterward with a douche-curette, and washed out with corrosive sublimate solution (1 to 10000) The anterior lip of the cervix is then seized with the fixature This instrument, as used by Prof A Martin, consists of a stout sound behind and a pair of stout double right angle hooks in front, set on a broad surface The sound is inserted into the uterine canal, the double hooks into the anterior lip of the cervix, which is compressed between the two The uterus is then brought down as far as possible and held forward An incision about half an inch long is then made through the vaginal mucous membrane at the upper border of the anterior lip of the cervix One must be careful not to make this incision too high up, for in pulling down the uterus the bladder is displaced and may be wounded This incision is prolonged with scissors about half an inch on each side A double tenaculum is put on the vaginal mucous membrane at the center of the incision, and traction made upward The bladder is then separated from the uterus by the finger, aided at times by the closed points of the scissors

It is important to carry the dissection well out on each side so as to have the ureters as well as the bladder out of the way By keeping close to the uterus there is no danger of wounding the bladder This dissection is carried as far as the internal os It is a mistake to strip off the peritoneum from the uterus farther up than this point The fold in the peritoneum may be felt by the finger against the anterior surface of the uterus, and in most cases may be seized between the thumb and finger An artery clasp is then put on the peritoneum and the peritoneal cavity opened by a small snip with the scissors, as near the uterus as possible Artery clasps are then put on each side of the opening in the peritoneum and the bladder dissected away from the peritoneum still farther As the bladder is pushed away, the peritoneum is slit up and clamps put on each side as guides A pair of double hooks are put on the vaginal mucous membrane about half an inch below the urethra The middle point of the vaginal mucous membrane in the transverse incision is seized with forceps Traction is made with both instruments and the ridge made in the mucous membrane is slit up with scissors The triangular flaps of vaginal mucous membrane formed by the transverse and longitudinal incisions are then dissected away from the bladder This usually peels off easily with the shut points of the scissors If vaginal fixation is to be done the sutures are then inserted on each side through vaginal mucous membrane and peritoneum I began by using silkworm gut, but since my first two cases have used catgut the silkworm being rather troublesome to remove This incision gives a wound extending from the cervix to the urethra and laterally about an inch on each side of the cervix

The examination of the uterus and adnexa is [illegible] made The uterus is then seized with stout double hooks—I much prefer right angle hooks, as they do not pull out so readily The fixature is removed and the cervix pushed back with the speculum The uterus is then delivered through the wound, any adhesions being separated at the same time with the finger When the uterine tissue is soft the double hooks may tear out several times before the uterus is finally delivered The first hooks inserted are usually too low and the uterus has to be seized several times before it is pulled out In this manipulation the uterine tissue may be a good deal torn The tears should be at once sewed up with a fine needle and catgut No ill effects come from these so far as I have seen This gives ready access to the uterus, tubes and ovaries, either for their removal or for the excision of diseased portions The tubes may be probed, and small cysts of the ovaries opened and curetted After whatever is indicated has been done, the fixation suture on each side is passed around the round ligament at its base, close to the uterus The uterus is then replaced and the end of the fixation suture on each side is passed through the peritoneum and the vaginal mucous membrane The rent in the peritoneum should then be united with a continuous suture of fine catgut If this is done no raw surface is left, and the adhesions holding the uterus forward will only be between the two layers of peritoneum The wound in the vagina is then sewed up with a continuous catgut suture Amputation of the cervix may be done if indicated Finally the fixation sutures are pulled tight and tied

The retention of the left ovary when the tube was removed is an interesting point in this case I am being constantly more impressed by the importance of the general nervous disturbance that follows the removal of both ovaries in comparatively young women The mental effect in these cases is sometimes very marked The woman often regrets the operation even when she has relief from much pain I have seen many cases of marked mental depression following castration The vasomotor disturbances are usually very striking and the patients suffer very much from them

If it is possible to spare the woman all these ills by leaving even a part of an ovary that is healthy, ought it not to be done in every case? My case shows that when an ovary is left and both tubes are removed, menstruation goes on with little discomfort I am convinced that leaving the ovary has made an immense difference to the well-being and happiness of this woman

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SOME OF THE CAUSES OF NERVOUS DISTURBANCES

Presented to the Section on Obstetrics and Diseases of Women at the Forty-ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10, 1898

BY JOSEPH EASTMAN, M D
INDIANAPOLIS, IND

Mr Chairman and Gentlemen —I would rather this afternoon be an attentive listener, and be instructed, than attempt to instruct I was much pleased with the idea of uniting specialties rather than subdividing them There is certainly a great advantage in reciprocity in connection with the specialty of neurology and that of gynecology I have this conviction very forcibly impressed upon me every day when I am at work, because of the extreme difficulty encountered in determining whether, in a given case, the disease from which my patient suffers is a local expression of a general neurasthenia, or whether the neurasthenia is the expression of a local pelvic condition The title upon the program is a little different from that which I gave the Secretary I said I would speak of the causes of some pelvic diseases which had to do with nervous conditions It is not by any means certain, as has been supposed, that every ovary which had prominent upon its surface a Graafian follicle, when removed, was cystic Some practitioners would have us believe that the uterus and ovaries produce nearly all pelvic disturbances There are other causes to which I shall refer The relation of uterus and ovaries to this subject has been thoroughly gone over by those who have preceded me

In a very able article written by my friend, Dr Etheridge of Chicago, published some months ago, he shows conclusively that a lacerated perineum, although so slight as to be almost imperceptible, does in many cases continue to so disturb the nervous centers that decided neurasthenia may result He shows also very conclusively that repair of some of these perinea materially benefits the patient, and in many cases cures neurasthenics who have passed through the hands of other specialists, who could detect nothing of the kind I will couch my words in as modest language as I can, yet I hope that none of the lady physicians present will think me immodest when I speak of such things as concern the happiness of women, women who are the life and peace, and joy and happiness of our homes, and such conditions as send women not only to the gynecologist, but to the insane asylum and to the grave

Dr Thomas, in his work on "Diseases of Women," speaking of some of the sequelæ of lacerated perinea, makes a remarkable statement As among the things which may result he speaks of impaired sexual gratification to the male in the act of coition Why a man of his great intellect and colossal experience should not have called attention to the fact that the same condition would have a worse effect upon the woman than upon the male, I do not know Because of the lack of perineal support and loss of vulval constriction the male organ is not brought against the erectile labia minora and sensitive structures in the anterior angle of the vulva By carefully inquiring of my patients from time to time, as opportunities have presented themselves for a number of years, I have been much gratified to have women of education and refinement tell me in a modest way that the sad old experience and great sorrow had passed away since a perfect perineum had been produced, according to the method spoken of by Dr Haggard this morning—restoration of the vulval constriction and restoration of the perineum I could cite perhaps twenty or thirty cases where I have positive information on this subject, in which women were continually left with the sexual impulse excited, but not relieved, unless by masturbation, and this has been completely overcome by restoring the perineum I have some other experiences in connection with the same subject which are worth citing

Some years ago a gentleman in Berkeley, Cal, bearing my name, cut out a section of the pudic nerve for clitoromania He reported his case as cured, but also stated that prior to operation both ovaries were removed The oöphorectomy had failed to effect a cure Following his operation, I cut out a section of the pudic nerve in a given case, and for a time I believe the patient was better, although she had gone on so far as to be a decided epileptic After a period of three years I find that I have done no good whatever, and the patient is not well My second operation was made upon a patient where the ovaries had been removed with no beneficial results at all I had the pleasure only two weeks ago of seeing this young lady, who was brought from the South She belongs to a family of wealth, education and refinement, and had become a monomaniac for some reason (perhaps, as I believe, from an inflammatory condition of the pudic nerve) Before coming under my observation her ovaries were removed by a physician in Buffalo, N Y Five years elapsed and no good had come from the operation After taking out a section of the pudic nerve, I found to my satisfaction two weeks ago that she is now perfectly well and entirely restored mentally Her health was good enough physically before A careful examination of the parts showed that they were in an almost normal condition instead of being hyperemic and hyperesthetic, as they were at the time I operated This was one of the most gratifying results I have ever had Those two cases which have come under my observation, together with the case of my namesake, make it conclusive to me that the removal of the ovaries preceding the operation of taking out a section of the pudic nerve was essential to overcoming the condition

One of the gentlemen who spoke here this afternoon referred to the cure of insanity by surgical procedures I had in my experience the case of a young lady who was the head teacher of one of our city schools She was confined in an insane asylum one year, and then removed from the asylum as incurable Upon careful inquiry I found that an intense head ache came on at the time of the menstrual period This had gone on from bad to worse until insanity had resulted In her case I found everything in the pelvis absolutely normal except one Fallopian tube, and that was kinked very sharply, and its lumen completely obstructed The removal of this tube and ovary upon that side has completely restored her to health Here was a case under the treatment of the best neurologists for a nervous condition prior to her becoming insane, and yet she was ultimately cured bv a simple surgical procedure I merely cite this case as an instructive one in connection with the point the gentleman mentions

For a number of years I have been in the habit of inquiring about the vermiform appendix I have in some of these cases opened the abdomen, searched for the cause of the nervous disturbance, and, finding only disease of the appendix, removed it the nervous condition gradually passing away As to whether it was the psychic effects of the operation, I am not prepared to say I believe, however, that if we look up the literature of the subject we will find those who speak of epilepsy as a result of intestinal irritation I recall one instance In Quain's medical dictionary it is said that disturbance of the mucous membrane of the intestinal tract in children may result in the production of epilepsy and other convulsive diseases If this little appendix is an incubator wherein all manner of germs may produce a catarrhal condition and a point from which nervous disturbances are likely to emanate, surely it is to be considered in connection with reflex pelvic disturbance

At the same time there is another condition which I have found to be worthy of attention in more cases than one, and it is a point which has been overlooked I refer to coccygodynia I believe it to be the imperative duty of every gynecologist, and neurologist for that matter, in making an examination, to pass the finger into the rectum and carefully examine the coccyx It is well known that the coccyx may be bent forward by falls in childhood or be broken backward by the fetal head in childbirth This point alone has been sufficient to enable me to find in many cases a condition from which patients could only be relieved by the removal of the coccyx I recall one case in particular she had her ovaries removed, she had been in a sanitorium under the best of care, was given massage, baths, etc , for a period of nearly one year she was declared to be incurable by one of our best physicians She recovered within four weeks from all nervous disorders after the removal of the coccyx While I had taught anatomy for seven years I had forgotten the exact relation of the coccyx to the ganglion impar Getting down Gray's Anatomy, he uses these simple words "it is located on the coccyx" Then, we have, as it were, an electric button placed at the lowest point of the spinal column which may cast its current upward through the sympathetic into the great central ganglia within the brain or into other parts connected with the pelvic organs In this connection I must express my belief that it is very rare indeed for any local condition to produce the so called reflex nervous phenomena in an individual who is not neurasthenic and whose nerves have the proper affinity to attract from the passing blood stream, Lecithin, the material provided for nourishment of nerve cells In nearly all cases of nervous reflexes there is a pre-existing tendency to neurasthenia, otherwise the reflex cause would only be a local condition producing its local phenomena, and would not produce the usual nervous phenomena so often accredited to local reflexes I have not in my experience seen local conditions in the pelvis produce the general nervous disturbances so often spoken of It is absolutely necessary, as I understand it, in many instances where we operate for pelvic disease and the nervous system is involved, to prepare the patient by treatment for neurasthenia and supplement the surgical procedure with appropriate treatment for the neurasthenic condition by the neurologist Hence our gratification in meeting with the neurologists this afternoon

There is a class of women who come to us complaining of nervous phenomena They want to be everything but their present identity everywhere except where they are now in some one's company, present company always excepted They have been to the neurologist, and they go to the gynecologist and undergo formidable operations with a heroism unparalleled in history yet, after all there is some unhappy mental condition, they are living in some sort of mental torture there is a skeleton in the closet They have not loved wisely They have not married the one they loved

> Their hearts do break and show no sign
> Save whitening lips and fading tresses
> Til death pours out its cordial wine
> Slow pressed from misery's crushing presses
>
> If singing breath and echoing chord
> To every silent pang were given
> What endless melodies were poured
> As sad as earth as sweet as Heaven

If we could only get at all of these

tions we might lay down our scapels and leather bags, there might be some way of curing or relieving such individuals of their trouble and sorrow

But of all the cursed and damnable causes of pelvic disease and neurasthenia, the horrible means to which women resort to prevent themselves from having children must be considered My friend, Dr Price, touched on this subject this morning, and it will not need much more touching up after he has handled it The thousand and one methods of preventing conception, the mental torture that they continually undergo for fear they will conceive, are frightful to contemplate By and by, they are, perchance just as wild and crazy to have children, when all of the delicate functions participating in conception and motherhood, have been so impaired, and the pelvic organs so destroyed or diseased, that conception is impossible Then, too, there are the damnable methods of procuring abortion I heard an explanation only recently why extra-uterine pregnancy was so common, and it was this, that the fetus even in its smallest form had become shy and hid away up in the Fallopian tubes to escape having its eyes punched out with crochet needles and septic probes of "quack" doctors (Laughter) There is in my judgment no one thing which is to-day contributing so largely to the deterioration of womankind and ultimately to mankind, as the damnable methods of the prevention of conception and the procuring of abortion

NERVOUS AND MENTAL DISEASES FOLLOWING PELVIC OPERATIONS

Presented to the Section on Obstetrics and Diseases of Women at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo June 7 10 1898

BY HAROLD N MOYER, M D
CHICAGO ILL

The topic assigned to me is a narrow one, namely, the nervous and mental diseases or changes which follow pelvic operations in women The purpose of the inquiry is to show if there is any difference in the nervous and mental effects which follow operations upon the pelvic organs from operations done on other parts of the body or surgical operations in general It would be easy to discuss this subject from one's individual experience, but it would be exceedingly narrow The observations that come to any one man are certainly few as compared with those that come to a large number of operators, so that I shall not relate individual cases, but will draw conclusions so far as I can, from the literature which is accessible to me and the material which I have collected The literature is disappointingly deficient in many respects Reported cases of the nervous and mental changes which follow operations in general are very disappointing, especially when studied from a statistical standpoint There have been a large number of studies made and cases collected of the nervous and mental phenomena which follow operations in general, but when we come to analyze this material we find that it is so varyingly expressed in different groups and in different tables, that an adequate comparison of a considerable number of cases is well-nigh impossible If you think for a moment, you will see that the subject is one so complicated in its nature, that it scarcely lends itself to statistical treatment at all If you remember, for instance, the widely varying opinions as to the efficacy of a particular treatment of typhoid fever, or indeed so recent a subject as the antitoxin treatment of diphtheria, a disease which is comparatively the same in all individuals, being of short and very nearly the same duration, it would seem as if the statistical method would throw abundant light upon the value of these treatments and would serve at once to settle the question as to their value But as a matter of fact, it has not done so conclusively in all respects When we come to consider the subject of operations and their effects you can see that the increased factors which we have to consider constitute such a varied problem that accurate, clear and concise conclusions can not be drawn I can only bring to you today such general statements and such general conclusions as I myself have arrived at, without being able to give in figures the basis upon which they rest

The first question which naturally presents itself is this Is there any difference between operations upon the pelvic organs of women and operations in general? If you examine the statistics you will be at once struck with the number of cases which are operated upon for pelvic disease, which show insanity, neurasthenia and other nervous troubles following operation and probably resulting from it Some writers have come to the conclusion that these operations are peculiarly liable to be followed by such phenomena, but if you come to analyze the cases more closely, you will find that operations are performed upon persons whose general health is greatly impaired The great majority of them are very much reduced by a long history of illness prior to the operation The operations in themselves are many times prolonged, and a by no means infrequent condition is the one of infection, a slow poisoning of the system for which the operation was undertaken Those necessarily are apart from the operation itself, and they furnish a fruitful soil upon which nervous troubles and insanity are built In order to get some sort of basis for comparison, I have taken fifty cases of opertions upon the prostate and bladder I have thought there might be some comparable relation between the pelvic organs in the male and in the female The operation was on the same part of the body and frequently accompanied by ill health, and often in the male by infection I compared fifty cases, excluding all those in which there was marked disease of the kidney, and I found that the nervous and mental effects following operations which might be attributed to the operation per se, were much greater in the male than in the female Taking all factors into consideration, operations upon the female pelvic organs are not attended with more nervous disturbance, such as neurasthenia or insanity, than are operations in general surgery

The character of the mental disturbance which may follow operations is substantially the same, whether the operations are done upon the pelvic organs or upon other parts of the body The great bulk of them fall within the class of neurasthenia, or that condition which is described by alienists as primary confusional insanity These two conditions seem to be the great predominating mental and nervous states which follow operations

Again, I tried to study the question as to the particular character of the operation, and as to the part that was involved in the operation, and to find out if that had a bearing upon the question I am unable to offer any conclusion on this point Those operations which include the ovary or Fallopian tube, and which are followed by the artificial or early menopause, were carefully studied, and I particularly addressed myself to the question as to whether there was any difference between the nervous phenomena of the artificial or induced menopause and the nervous disturbances which accompany the menopause at the ordinary time of life. My conclusion is that there is no essential difference and that they are practical, so far as nervous phenomena are concerned.

Another question is: Whether the removal of the ovary added an additional factor, in the sense that there was something taken out of the economy, if you please, by which there was created an unstable or peculiar nervous state, something that was comparable to the removal of the thyroid gland or an internal secretion cut off, and whether there might be mental phenomena growing out of the removal of the ovary distinct in their characteristics from the artificial menopause? I have no conclusions to offer upon that phase of the subject. I have not formed an opinion as to whether that is so or not, as the evidence is very conflicting. It may or may not be. Certainly, so far as the effects of operations are concerned and so far as my studies go, there seems to be a practical point in this, that the ovary had better be left in, or a part of it, if possible, and there is also sufficient to warrant the deduction that resection of the ovary is far preferable to removing it, if it is possible to do so.

In conclusion, therefore, I would simply say that I have arrived at the opinion that there are no radical differences in the primary effects of operations upon the pelvic organs in men differing from the effects of similar operations in women, or indeed of operations in general surgery, and that there is a distinct and peculiar effect from the removal of the ovaries or tubes, or both, by which the menopause is established, but that that does not differ in its nervous phenomena from the menopause occurring normally at the ordinary time of life. As to the possibility of a peculiar physiologic effect following extirpation of the ovary, not attributable to the menopause, I have absolutely no conclusion to offer.

DISCUSSION ON PAPERS BY DRS. EASTMAN AND MOYER.

Dr. **Milo B. Ward**, Kansas City, Mo.—I could never quite understand how it is that we have so many differences of opinion in our profession regarding a question of so much importance as the one before us today. One physician will come before you and say that surgical interference is never indicated in neurotic troubles, and that the results are never good. That is the implication at least. Another will tell you that of very many cases that have come under his observation the majority of them, when operated on judiciously, recover entirely. We take the history of one case, for instance, in our experience and make it cover the whole experience of our practice. For instance, if I operate on a patient who I know has a nervous affection and she does not recover, I am frightened out of doing an operation for like conditions on other patients. About three years ago, when I was called upon to discuss this question in the State Medical Society of Missouri, I said then that I did not believe surgical interference was ever indicated for neurotic troubles unless the pathology was very marked, and then we operate for the pathologic condition without any expectation whatever of deriving much benefit from the operation as to mental influences. I am here today to champion the opposite of that opinion. I have had cases enough in my own experience in which relief was so perfect following surgical interference for disease of the pelvic organs and marked nervous disturbance, that I think we have here a great field for investigation and work. We are bound to admit that there is no other influence in the human economy that has so much to do with the general system as the pelvic organs in the females.

About a year ago a young lady was brought to me under the impression that she had some pelvic trouble. Her father had been told by his physician that she had epilepsy, she was a great sufferer, and it was really a pity to look at her. I examined her carefully under ether, and found absolutely no pathology in the pelvis. I stated as my further belief that an operation for pelvic trouble was not indicated and that I would put her on the improved treatment for epilepsy and watch the symptoms. After two and a half months' treatment the young lady improved, but not satisfactorily so. I made an exploratory incision and finding that the appendages were diseased, removed them. The young lady went home at the end of five weeks perfectly well and has not had a symptom since then.

I have had two cases in the last six months where I have removed the uterus for disease. In one case the appendages were removed for neurotic troubles. These patients were great sufferers constantly for weeks and months, and both of them are well today, having had no symptoms since the operation. I have been informed recently, although I can not give the author of the statement, by a physician who heard the report that in Toronto an alienist reported that a hundred and nine cases in the asylum there were subjects of various pathologic conditions, and each one had had an operation performed, and of that number about seventy five per cent. of them were sent home well. How are we going to account for that fact unless there is some relation between the pelvic organs and the general nervous system?

A few years ago I had the honor to be gynecologist for the Topeka Insane Asylum. There were two patients brought to me with the belief that something could be done for them by resorting to operative interference. One young woman had homicidal insanity, tried several times to kill herself, and was brought to the asylum as incurable. In her case I found marked pelvic disease with adhesions, and I said to the husband, "I will operate on her, although I do not believe it will do any good." I removed the diseased organs, and strange to say, that woman never had a symptom after the operation. It is three years since the operation was done and she has never had any symptoms since.

Dr. **J. T. Eskridge**, Denver—I am sure we are very much impressed with the change that has taken place during the last fourteen years. I remember—I think it was in November or December of 1883—of participating in a discussion before the Philadelphia County Medical Society on this subject. There was a distinct antagonism between the position of the neurologist and that of the gynecologist. As you can recognize from the discussion this afternoon this feeling has largely passed away. We are coming to recognize that the mutual relations of certain specialties are so strong that we must work together, if we work for the good of our patients. I feel very closely associated with the general practitioner of medicine, with the gynecologist, the laryngologist, the ophthalmologist and with the specialist of acute and chronic diseases in both male and female. I feel that every man must know something of everything in medicine and everything, if possible, of some one special subject. We find patients coming to us who complain of various symptoms. If a patient comes to me complaining with an array of nervous symptoms which have existed for some time, and I find on inquiry that the symptoms point strongly to the pelvic organs, I do not submit that patient to the expense of an examination from a neurologic standpoint, but I send her to a gynecologist and let him find out whether there is any special trouble in the pelvis first. I realize the fact that I am to do my best, and if some organic lesion exists in the pelvis it is impossible to cure the patient until the organic lesion is relieved. The gynecologists and neurologists of Denver work together in this respect. If I begin to investigate a case of nervous disease, and find there are other symptoms which strongly point to some local trouble, be it in the chest, in the nose or the eye, I invariably send the patient to the proper specialist for investigation before I try to thoroughly examine her. A neurologist should be made the broadest of all specialists. He should investigate his cases most thoroughly, but only after certain conditions are excluded. I have tried to cure certain cases of nervous diseases that presented decided symptoms of pelvic trouble. I have succeeded in many of them, but have failed in others. Now, I never try to cure a case of nervous disease, such as neurasthenia until I have excluded the possibility of local trouble in various portions of the body. Further, I believe that certain conditions depressed states of the nervous system may cause the development of symptoms in special organs of the body, [illegible] person simply in a neurasthenic condi[illegible] period of years and she may after a [illegible] trouble and a gynecologist getting h[illegible] think that she has suffered all the [illegible] trouble when as a matter of fact it vic trouble has been subsequently developed, her state of health has been depressed, other causes have acted locally and local trouble is developed

In regard to how much intra pelvic trouble has to do with the causation of nervous troubles, I think everyone who has had much experience will say that they have a great deal We can have a typic train of nervous symptoms due to intra pelvic trouble, as has been developed over and over We can bring forward numerous cases of insanity that we have seen cured by operative measures, but no cases of dementia existing over a period of years Dementia is practically incurable, that is, it is never cured by intra pelvic operations But the insanities are cured A number of cases of operations upon the body other than the pelvic organs have resulted in a cure of mental disturbances I could cite a number of cases of insanity that have been cured in this city by prompt surgical measures These were comparatively acute cases of insanity But there is a happy medium, and that is just what we are all striving for, and the nearer specialists work together, the sooner we will reach the goal We should investigate our cases from an unbiased standpoint, we should investigate them so that we can get an exchange of opinion, and I hope the time is coming when we will have other symposiums on different subjects, so that we can understand each other It would be a good thing if we could meet together in one room, but we can have symposiums from year to year and learn the views of others, although our work runs separately

Dr **JOSEPH PRICE**, Philadelphia—During the last year or two neurologists have paid quite as much attention to gynecology theoretically as we have, but not quite so much, I regret, practically If they had paid as much attention to the diagnosis of the pelvic viscera as they have to the theory of neurasthenia, they would not have appeared in print as often the last year or so, and some of the gentlemen have figured in this discussion

Intra pelvic disease in private practice and in our public asylums is largely responsible for many of the nervous disturbances found I recall a case that came under my observation some years ago, in which a woman was said to be suffering from vesical or rectal disturbance, and I was asked if I would not see her I saw her the following day, relieved a simple fissure by divulsion and returned the woman, who was lodged in an asylum, to her home She is now an active woman, and has borne a large family Dr Potter of Germantown once referred a patient to me who was wearing a spinal brace, and I think a jury mast She had been married some years ago and had never conceived She was greatly emaciated, she had all sorts of emotional disturbances aside from her physical incapacity On examination I found the uterus and appendages fixed, and where we have a fixed uterus and appendages we have occlusion with retention of fluid, pus or water—always I removed the diseased appendages, freed the uterus, and she made a good recovery She has not worn the jury mast or spinal brace since Another case A woman from Pottsville, the wife of a prominent business man, was confined in an asylum Her husband was urged to consult me, and I advised him to bring her home This he did On examination I found the appendages diseased, with occlusion and retention again I removed the diseased appendages, and the woman has made a beautiful recovery

An active practitioner in West Philadelphia brought a patient to my office some two years ago She was a young woman, 20 years of age, and she had been treated by three prominent neurologists of Philadelphia He went on to tell me that her mania and nervous disturbances were of such a marked nature that it was necessary to confine her or put her in a jacket The nervous disturbance was always aggravated at the menstrual period He asked me if I would attempt to do something for her relief She was the daughter of intelligent people in good circumstances The young woman was admitted to my hospital in a strait jacket This was removed and she was controlled by two good nurses In that case I found simply prolapse with fixation, a subject you have discussed most carefully There was also great tenderness The local conditions had been treated by general treatment, but unfortunately not by local methods I removed the appendages and she recovered beautifully She went to the country and her convalescence was prolonged by quiet and rest I do not think she has ever had a convulsion since, and she is now a devoted daughter, and goes out into society

Some years ago I did a few operations in my native State, and while visiting an institution at Petersburg, Va, I had a curiosity to know how many colored women in that asylum were burdened with fibroids I do not believe that most women who have fibroids are entirely themselves There is always more or less marked disturbance I went over the asylum and examined the colored women rapidly for one hour with fibroids and tubal and ovarian disease In some cases it would really have been difficult to have passed a catheter between the fibroid, compressing the pubic arch, and the urethra It was the saddest experience I have ever had in gynecology

Regarding nervous phenomena following operations, I am perfectly willing to admit that we have had too many post operative sequelæ and too many local lesions following our operations, but many of the operations early in the history of gynecology were imperfect and incomplete The materials were badly chosen, and are yet in many cases Very few gynecologists and very few surgeons are serving the apprenticeship they should serve For instance, I am constantly removing dead ligatures and all of you who are doing much of this work are doing the same thing Three days before I left home I did three consecutive sections One woman had had two sections performed on her While operations are done with badly prepared materials we will have all sorts of nervous disturbances and local pain until they are removed

The specialists in other departments have been very fair I have specialists who constantly send patients to me Nose, throat and ear men send patients to me and ask if there is anything the matter with the pelvic organs of their patients I examine them carefully and write them if I find the slightest lesion whatever If there is but slight tenderness and absence of adhesions of any character on the right or left side, I tell them a little general treatment judiciously directed by themselves will be sufficient and that operative interference is out of the question They follow my instructions, and the patients are willing to be guided by their counsel and treatment, and are benefited Early in the history of this subject we were probably all guilty of doing operations we should not have done, but we do not feel so badly about it because the cases were very few, and it is easier in a progressive profession simply to practice levelling

Dr **HENRY O MARCY**, Boston—Your presence during three long hours upon a discussion of this subject is sufficient evidence of the intense interest and value of it But I am reminded that this discussion should have closed with what Dr Price has told you However, there is something else to be said It is not a very great while ago that a story was told me of the late distinguished Benjamin Butler His assistant interrupted him in the midst of one of his debates to give him a point, and he turned to him and said, "When I have got through, you can rake behind" When Dr Price gets through there is very little raking to do It is said that a student in New York from the Allegheny Mountains, after hearing a discussion upon this subject by one of his professors, turned to one of his friends and said in his vernacular "I'll be gol darned, I'd rather be a moonshiner in the *mountains of* Tennessee than to be a uterus in the city of New York" This subject is by no means so new as some would have us believe I am reminded of a celebrated discussion that occurred between two most notable men sixty years ago in London Sir Benjamin Brodie and the great Watson, who wrote the practice of medicine in two volumes which we were asked to digest in our earlier days After they had gone over the case carefully, Sir Benjamin asked this great physician his opinion, and he said "Sir Benjamin, it seems to me, Sir, that it is equally good practice in medicine, as it is good practice in surgery, that if you find the offending organ, to deal with it in accordance with its real merit" That may settle altogether the question you have had so long under discussion today When you have found the offending factor it is your duty to consider it in the light of the better *knowledge* which it is our profession to possess This may settle the question in broad terms You all know that the experiences that have been related today are not alone, but that they can be multiplied in the experience of every individual present I am glad to tell my friend Dr Ward, that it was none other than the distinguished Dr R M Bucke of London, Ontario (superintendent of the Insane Asylum), who, as my guest less than three years ago, said he would go back to Ontario and ascertain by careful examinations made by good gynecologists how much a factor pelvic diseases pertained to the patients there incarcerated And last summer at the Montreal meeting of the British Medical Association he made the report to which Dr Ward referred, and he told me afterward personally that in more than 80 per cent of the cases there were complete cures, the patients' mental equilibrium being restored I believe that Dr Price is right regarding our asylums In Massachusetts I have asked several times that the inmates in our institutions for the insane be examined by a competent man, and I have had the requests denied It is a question that has a practical bearing I am sure there are many cases in which, after pelvic opera tions, mental troubles have been relieved Plenty of cases can be reported Here is one, for instance A woman had been married seven years and for this period was practically an invalid in bed She was brought to me 500 miles, and after the removal of the offending pelvic organ she was completely restored, she took her position in society and made her home happy Four years later she came to see me and said that she was not feeling quite well, and this time the appendix was the offender, which had been carried down by some forcible act into the pelvic structures and was adherent behind the uterus The appendix was removed and again she was restored to health

Not long since a patient in my private hospital was brought to me in a strait jacket, she had worn a suspensory apparatus so long a time that it had deformed the body She had been in one of our general hospitals for several weeks, had been examined by neurologists, and they had declared nothing could be done After a careful examination I found adherent adnexa, disease of the ovaries, removed them, and four weeks afterward the woman was walking without her jacket, and only a day or two before I left home I was informed that she was progressing rapidly This is not an isolated case, each member of the Section can multiply them in great number Take the diseases that come from pus tube and many affections of that character, and ask yourselves as to the results following surgical interference But in closing this already too long discussion, for I see many of you are tired, I would like to say this, that in all of the discussions in which I have participated I have rarely seen such equipoise of good judgment and of discrimination as has been shown in the debate to which we have listened this afternoon

Dr **Charles H Hughes** of St Louis, Mo —I believe I had the honor by invitation of Dr Marcy of reading the first neurologic paper in this country before a gynecologic body I selected, at the suggestion of Dr Marcy himself, the theme, "The Neurological Aspect of Gynecic Disease " We all sail in the same boat We work in the same field, and we are obliged to work together, we can not make any progress without it Neurology depends upon gynecology largely in the affections of women, and it is apparent to leaders in gynecologic thought that the nervous system is no longer ignored, and has not been for decades in the history of gynecologic practice by the most eminent, practical and best gynecologists of our day There is no quarrel between the average intelligent gynecologist and neurologist today, and if I had made the opening speech I should have congratulated both departments upon the wonderful growing together of neurology and gynecology, and the notable advances which both specialties have been making in the last three decades Neurology is a young specialty Gynecology antedates neurology a long way You have a longer time in which to look over past records You have committed some errors; ours are yet to be made The question we are both endeavoring to determine with scientific accuracy is when and where and how to interfere gynecologically, and when and where and how to proceed neurologically in a given case involving woman Our observations teach us that it is absolutely impossible for either of us to get along without the other and be successful practitioners of medicine We have learned, gynecology has learned, and now gynecology teaches that a neuropathic diathesis is not to be obliterated by an operation, and neurology acquiesces in the dictum of gynecologic thought It is not the intelligent, up to date gynecologists that neurologists quarrel with, but it is the intermeddler who knows neither gynecology nor neurology Neurology does not exempt a woman's pelvis from those necessary operative procedures which are so essential in the presence of disease An unstable nervous organism may be rendered stable by a judicious and timely pelvic operation The gynecologist does not cure the underlying the neuropathic, hereditary instability of the organization It is only men of limited knowledge in gynecology or neurology that make this assertion The atmosphere is becoming clarified, and we are seeing more clearly than ever before, and we are working together

Dr Price referred to a case of insanity being cured by treating a fistula When I was 22 years of age, in a military hospital, I recollect relieving a fistula and curing a case of melancholia in three weeks The neurophatic instability was there, the determining factor that produced the latent melancholia was removed and the man was restored to his normal condition That is the value of the neurologic idea of gynecic operations We do not stop upon rational gynecologic procedures We ought not in a discussion like this to attempt to make each other out culprits and disparage the efforts of the other in this work, because we as neurologists can not get along without gynecology We do not want it, and you can not get along without us, without borrowing information from neurology, nor can we without borrowing information from gynecology nor do we want to

My object in participating in this discussion is to put neurology in its proper aspect before gynecology It is the needless meddlesome gynecology that we object to it is the psychical effects produced at certain times by gynecologic procedures that are not necessary, but whenever an operation is inevitably necessary no neurologist, properly informed, dare object

Dr **S C Gordon**, Portland Me —I had the honor to be Chairman of this Section at the meeting in St Louis in 1886 The title of my paper at that time was "Hysteria and its Relation to Diseases of the Pelvic Organs," and was based upon operations that I had made from 1883 to 1886 in just this class of cases I showed from the cases detailed there abundant proof to my mind that removal of the ovaries had produced relief of the nervous symptoms, or of hysteric symptoms Before that time neurasthenia had hardly come into use We had hardly discriminated between hysteria and neurasthenia Now, some of the cases operated on and reported at that time have been neurasthenia I am not sure they were not I am sure, the neurologists of today would not have called it neurasthenia, and neurologists all admit, that neurasthenia may have a pelvic origin, and it may be relieved by operations upon the pelvis I do not mean to say, that I did operations at that time that were needless

I was called at that time, "a radical " Dr Joseph Price has been called a radical It never disturbed me very much, because I knew I did a great deal of good in this radical direction Since then I have learned a good many things, I have learned to do conservative operations upon the ovaries and tubes, and such operations have been beneficial, as has total extirpation of these adnexa But I am still a radical, and in every case where I feel obliged to remove the adnexa, I remove the uterus and all I get rid of the whole business If that is radicalism, I make the most of it I do not remove the tubes and ovaries for conditions that I once did But the point made by Dr Humiston of Cleveland is a strong one and that was made prominent by Dr Palmer of Cincinnati in a paper read before the American Gynecologic Society three years ago, namely, a sclerosed condition of the tunic of the ovary You cut the ovaries with a knife and you can cut the finger with the edge of the incision in the ovary Those are cases that no neurologist in the world can benefit, and when they have nervous symptoms connected with this condition I remove the ovaries, but I do so only after a careful examination and the conviction that such is the physical condition of these ovaries Therefore, I believe we are doing a great work in this matter We have done a great deal in this direction and we all learn from our mistakes We believe we have benefited hundreds of women by radical operations

Dr **C E Riggs**, St Paul—I think this symposium has proved of the greatest benefit We have learned some valuable facts, namely, that we are very much closer together than we really knew of If a woman has local trouble she expects to be neurasthenic or hysteric and possibly insane, that is, in extreme degree I never will forget a case I saw in the Salpetriere a little over a year ago, shown by Charcot the younger It was a woman who had a great desire to be an angel So intense was the desire for it that she went into the chapel where the beautiful pictures were with hands clasped, rising on the feet ready to soar and pierce the heavens She did rise on her feet She had an hysteric contraction of the gastrocnemius muscles, and the only one thing she lacked was wings

This feeling, that there is something particularly serious about pelvic conditions is destined along the line of suggestion to do a vast amount of harm I remember Charcot saying never, never remove the ovaries for hysteria I do not think he meant to exclude the removal of pathologic ovaries, and I am sure, no neurologist, who has looked at the subject broadly, would take any other view than that if the ovaries were the source of reflex irritation they should be removed I have in mind at the present time a woman who was said to be having serious trouble during the adolescent period and finally, not knowing whether the ovaries were exactly healthy or not they were removed, and for seventeen years that woman has been an invalid The ovaries should have been allowed to remain I think resection of the ovary in some cases would prevent many serious consequences along the line of nervous troubles that usually follow As to mental troubles it is absurd to suppose that pelvic disease can cause dementia Terminal dementia as has been said by my *confrère* Dr Eskridge is absolutely incurable There is no doubt but what local can
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A CONSIDERATION OF SOME OF THE REMOTE SYMPTOMS AND COMPLICATIONS OF A PELVIC DISEASE

Presented to the Section on Obstetrics and Diseases of Women at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY H. D. NILES, M.D.
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The existence of an intimate relationship between diseases of the female generative organs and morbid conditions and functional disorders in other parts of the body was known and appreciated in the earliest days of gynecology. The older gynecologists, guided as they were by clinical observations alone, and misled by a false pathology, based upon speculations and guesses, regarded these conditions and disorders as expressions of a mysterious, sympathetic or nervous influence that these organs, when diseased, exercised over remote parts of the body. For many years such obscure, vague and indefinite explanations satisfied the arm-chair theorist and furnished guidance and consolation to the office gynecologist and his patients. So long as our knowledge of pelvic disease was limited to conjectures suggested by the position of the uterus, the character of the vaginal discharge, the appearance of the os, etc., and our treatments were confined to applications, poultices, injections and sedatives, these unsatisfactory and untrue explanations can not be said to have been absolutely harmful. But with our present conception of the pathology and surgical treatment of pelvic diseases, it is both possible and necessary to obtain a clearer understanding of these remote symptoms and complications, and the serious consequences of overlooking and misinterpreting them are emphasized today by many a sufferer from an unnecessary, ill advised, poorly planned or neglected operation. The complaints of these sufferers not only remind us of actual errors or oversights which we should strive to avoid, but often serve unfairly as texts for remonstrances against surgical treatment in general.

Tempted and sometimes misled by the allurements of the more brilliant life-saving procedures, I believe we are prone to forget that the ultimate fate of our patients, our own reputations and the further advancement of surgery depend today more upon our correctly interpreting these symptoms and our prevention and proper management of these complications, than the devising of any newer and quicker methods of removing a pathologic specimen or of evacuating a pelvic abscess. The patient may soon forget the length of time in bed and lose interest in the size or location of an operation scar, but neither she nor her physician can banish from their minds the misery and suffering resulting from an imperfect diagnosis or an incomplete operation.

In examining a patient suffering from a possible pelvic disease, I have found it convenient and helpful to recall that the remote effects of pelvic disease may be due to the following causes:

1. *Septic infection*, ranging in virulence from puerperal septicemia, attended by chills, high fever, sweats, etc., to the mildest sepsis which may be shown by a slight headache, feeling of malaise, bad color, loss of strength, etc.

2. *Pressure upon nerves, vessels, ureters, bowels or bladder* causing neuralgias, local congestions, hemorrhoids, vesical irritation, painful defecation, constipation, partial or complete suppression or retention of the urine with resulting general symptoms.

3. *Bladder, bowel or omental adhesions*, the latter producing a chain of symptoms, due to the weight and dragging upon the stomach and colon of an adherent omentum. I believe that in women a large number of the cases described as gastro-enteroptosis may really be suffering from this cause or from colons heavy with fecal accumulations.

4. *Nervous reflexes.*—Under this head are included all those symptoms which with our present light can not be satisfactorily explained on any other hypothesis.

The wide range of symptoms capable of being produced by these four sets of causes may be advantageously considered in groups as follows:

1. All those that are due to deterioration of the blood, either by septic absorption or defect in the eliminative organs.

2. Those that are due to pressure upon the nerves or blood vessels of the pelvis. Among the pressure symptoms are also included all those non-inflammatory and non malignant hypertrophic or atrophic changes in the ovary or endometrium which by pressure or irritation of the nerves or glandular elements cause distress or functional derangement.

3. Those that are due to functional disturbances or organic disease of the stomach and intestine from omental or bowel adhesions. In this group would be included such cardiac and nervous symptoms and evidences of malnutrition as may result from gastro-enteric disease.

Given a pelvic lesion, I believe that a reasonable explanation of most of the remote symptoms will be suggested under some of the above headings, or given the symptoms indicated in the foregoing classification inexplicable otherwise, I believe that we should search the pelvis for a possible cause, even in the absence of local signs or symptoms.

The two sets of symptoms which in my experience and observation we are most prone to overlook, underestimate or misinterpret are: 1, those symptoms of a mild systemic infection from low-grade chronic inflammation, and 2, those distressing derangements or grave diseases of the stomach and intestines, that bowel or omental adhesions are capable of producing.

Arthritis, tonsillitis, headaches, neuralgias, general mental and physical depression, evidences of malnutrition and all the well-known symptoms of a mild toxemia, with or without fever, may be due to absorption from a chronic salpingitis or an endometritis that may produce but little pelvic distress. All pelvic surgeons have observed the emaciation in chronic pus cases long after the acute symptoms have subsided. Dr. Price was the first to call my attention to this wasting, particularly in the legs of such patients, and he regarded it as a symptom of some significance. My own observations lead me to conclude that as a rule the nervous system is first to feel the effects of this deterioration of the blood, then the muscular system, but any of the structures of the body may suffer to an extent that might easily divert our thoughts from the real source of the trouble. I think that when these indications of blood deterioration occur and no defect in the excretory or assimilative functions can be discovered, we may assume that they are due to toxic absorption, and in women between the age of puberty and the climacteric the most probable source will be found in the pelvic organs, just as in a man a posterior urethritis or a chronic appendicitis is the usual origin.

The stomach and intestines seem to readily adjust themselves to the changes in position and crowding produced by large tumors or pregnancy, but any interference with the functions of their muscular coat, impairing, preventing or reversing normal peristalsis, whether by direct pressure of tumors, the dragging, constricting or occluding of bands of adhesion or the action of toxic irritants, may be followed by the most serious results. Normal peristalsis depends upon perfect and regular contractions of the circular and longitudinal fibers of the muscular coats of the intestines, and as no chain is stronger than its weakest link, any band of adhesion that serves to impair the functional activity of any part, however small, of this muscular coat, must interfere with normal peristalsis. Taking this view and taking into account the frequency of these lesions, I am convinced that peritoneal adhesions rank second only to sepsis in the production of distressing and dangerous symptoms. All pelvic and abdominal surgeons who have studied carefully the many recent excellent articles upon gastroptosis, gastro-enteroptosis, dynamic and adynamic ileus, etc., must be impressed that these conditions are due, not directly to downward displacement of the abdominal viscera but to interference with the normal functional activity of the muscles employed in peristalsis and that this interference is usually due to the dragging, constricting or occluding effects of adhesions, or in rare instances to the presence of microbic or other irritants (as lead). This view is further corroborated by the well-known fact that the omentum is always quick to attach itself to any pelvic inflammation and the contraction and the impaired mobility that ensues is likely to be followed by dragging upon the colon and stomach and attended by characteristic gastric symptoms. A colon heavily loaded with fecal matter may produce the same dragging with similar symptoms. The vomiting accompanying hernia of the omentum is susceptible of the same explanation. In a large proportion of the autopsies performed upon child-bearing women, a sagging colon will be found that has produced no suggestive symptoms during life, unless chronic constipation, peritoneal adhesions or exposure to lead poisoning previously existed. I believe, therefore, that we are not justified, as a rule, in regarding this displacement, taken by itself, as a pathologic entity. The following case illustrates well the point I have attempted to emphasize and will doubtless recall other cases where the remote symptoms and complications overshadowed and obscured the original pelvic lesion.

Mrs. C., Idaho, aged 37, housewife. First seen Feb. 20, 1897. The patient, an extremely pale, anemic, emaciated woman, gave a history of having been ill for two years. During the most of this time she had been under active treatment for a grave stomach disease which was regarded by her last medical attendants as either gastric ulcer or cancer. She certainly gave a very suggestive history, viz., severe pain over the pit of the stomach, radiating to the back and shoulders, worse after eating, vomiting daily, food, coffee ground material, and at times considerable blood. She had lost fifty pounds in weight and for the past six months had been bedridden most of the time. Her diet had been soft predigested foods taken in small quantities. When the paroxysms of pain occurred the only relief she obtained was by the use of morphin and the stomach tube which had been her constant companion. There was no tumor nor marked tenderness, but the stomach was displaced downward until when distended it extended below the umbilical line. It seemed to me that in spite of this history, the length of time should exclude cancer and that we had not the typic symptoms of gastric ulcer. Vaginal examination disclosed a retroverted uterus, the fundus pressed to the right by a small immovable tumor.

On February 25 I opened the abdomen and removed a dermoid cyst, the size of a small orange, containing bone, cartilage, hair and sebaceous material. The adhesions were extensive and strong, attaching the lower order of the ometum firmly to the tumor and thus dragging upon the stomach. These adhesions were thoroughly broken up and the abdomen closed without flushing or drainage. The patient made a smooth recovery and left the hospital quite well four weeks later. I have heard from her at intervals ever since and always favorably. She eats anything and everything with impunity, has no distress or occasion to take a dose of medicine. She has regained her former weight and strength and in every way appears perfectly well.

Septic infection, peritoneal adhesions and the presence of tumors or growths are the chief indications for pelvic surgery.

The relative importance and responsibility of each of these pathologic factors as a producer of distressing or dangerous conditions indicate to the pelvic surgeon the relative claim of each to surgical attention. Those of us who are convinced that no one of these factors should be neglected in any operation under any pretext, can not consistently endorse those surgical procedures, which include alone, the removal of pus or the pathologic specimen perhaps, but does not embrace the breaking up of all adhesions. We believe that the present growing tendency to do such incomplete work will be found unsatisfactory in time, as further study and experience reveal the evil consequences, remote and immediate, of such operations and render apparent the true origin of these consequences. Those who have a working as well as theoretic faith in complete work can not, to my mind, look with favor upon any vaginal operation for the relief of pelvic inflammation, the delayed operation for appendicitis, or the leaving of an abscess wall or gangrenous appendix, or bands of adhesions after opening an appendiceal abscess, nor upon the so called conservative work upon the appendages. Neither can they regard any peritonitis infected by an inflamed tube or appendix as ever cured except by operative measures. Illogic and misleading references to so-called clinical recoveries, the exaggerated advantages of a quick and easy operation, short time in bed, lessened shock and hidden scar will not, if they are true to their faith tempt them to subject their patients to the dangers of an incomplete operation.

In saying this I do not forget that among those who teach and practice these incomplete appendiceal and vaginal operations, and this so-called conservative abdominal surgery are operators whose skill, reputation and sincerity can not be questioned, and their honest belief that these methods give the maximum amount of relief, with the minimum amount of risk, is not to be shaken by ridicule, abuse, statistics or persuasive arguments. But I trust and believe that their conversion to the complete operation will come as the importance of peritoneal adhesions as a pathologic factor is made apparent to them in their practice.

The actual increased immediate risk of the complete operation, we can already approximately determine but the real point of contention, and that most difficult to make apparent and agree upon, is our estimate of the serious remote consequences of peritoneal adhesions, partially devitalized tissue remaining in the peritoneal cavity, pressure symptoms, etc. As further study, experience and observation shall reveal just how much and how little these factors have to do with our ultimate results, we will progress toward precision in diagnosis and in treatment In the meantime neither the diagnostician nor the operator can afford to be diverted by the urgency, prominence or immediate danger of other symptoms from a fair consideration of those less acute, more remote but not less grave, symptoms, complications, and sequelæ which usually exist and often menace the health, well-being and even threaten the life of patients suffering from pelvic disease

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PELVIC INFLAMMATORY DISEASES

Presented to the Section on Obstetrics and Diseases of Women, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo, June 7 10 1898

BY A H CORDIER, M D

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This subject would seem to be worn threadbare, judging from its being so often used as a theme for discussion, yet the fabric, being of great surgical value, has rather improved by use and age The discussion of any topic in which the questions of human life and comfort are concerned is always timely and of interest

Sentiment and fashion should never be permitted to enter into a *proposition* where the question is one in which these unsurgical twins have long since proved themselves montrosities

Abdominal scars have been used as breastworks behind which some surgeons have hidden their fears of removing complications and the performance of complete work, while they made and abandoned tunnels in which the enemy threw up additional fortifications to repulse the invader who attempts to reduce their stronghold to liberate imprisoned organs and dislodge the offending cause

It is perfect surgery, or as near perfect surgery as possible that all surgeons should desire, but before accepting precepts involving human life and comfort, all evidence should be brought to bear on the topic, duly analyzed and weighed for its proper worth Occasionally a surgeon who has been obtaining almost uniform good results will give up the old for something new and uncertain

The limit and the character of the pathology should form an indication as to the character and the extent of the surgical procedure A succulent and pus infiltrated uterus, with possibly numerous pus foci surrounded with pus laden tubes and ovaries, should be removed, the choice of operative procedure being the one that, in the opinion of the surgeon, offers the greatest chances of immediate recovery from the operation, a permanent relief of the constitutional (septic) manifestations, the local symptoms resulting from the presence of these diseased structures, and the repairing of the damage to surrounding organs wrought by their presence

A cancerous uterus should always be removed, if seen before the disease has extended to surrounding organs The tubes and ovaries, as a rule, should be taken along with it, thus keeping as far beyond the diseased area as possible

A uterus known to be tuberculous should be removed along with the appendages, as by so doing a systemic infection may be averted The cancerous and tuberculous uterus, as a rule, can be removed through the vagina, for, if the disease has advanced so far as to involve the viscera, the case is an inoperable one and should be left alone so far as surgery is concerned The operation that promises nothing more than a specimen and a fee is not within the domain of legitimate surgery

In an old, recurring, puriform disease of the uterine adnexa, where adhesions are well organized and where the intestinal bladder and the omental attachments are firm, the vaginal method would be fraught with more danger than the abdominal These cases have established in part a peritonitic immunity by a prolonged and gradual process of auto-serotherapy, consequently the abdominal method is not so liable to inaugurate an acute, dangerous peritonitis or septicemia, as is often the case in the acute or primary attacks if operated on

Some of the advocates of the vaginal method, only a short time ago, maintained that it was an admission of incomplete operation to use drainage, yet they advance the good drainage by the vagina as an argument in favor of the vaginal route

It has long been an established and demonstrable fact, that in the majority of instances, the uterus is capable of taking care of itself, and that it does not give rise to any trouble by its presence after the diseased appendages have been removed I do not understand why an organ with a good and free natural drainage should not recover, and yet, as is claimed, an ovarian abscess or parts of diseased tubes, with walls as thick and as shaggy as a cocoanut, get well with an opening into the vagina

To remove the uterus and a part only (as is admitted in many cases) of a diseased tube and ovary, and leave a filthy sequestrum in the pelvis, and expect Nature to cure the case, is not good surgery, and a larger percentage will be found to have imperfect recoveries, fistulæ, and continuance of the pain, than if the work had been completed This it is possible to do, and it is done by good surgery when operating suprapubically

The Trendelenburg position and vision surgery took possession of the minds and technique of many operators a few years ago, and numerous articles were written lauding the advantages of that position while doing abdominal and pelvic surgery The pathology is really confined to the pelvis, but its effect and extension are often found at the umbilical level Some of the operators (and many of them are skilled and successful in every surgical sense) are now practicing and teaching the dark route (vaginal) method, where strong instruments, the sense of touch, much muscle, and adhesive or staying qualities are factors in the make-up of the surgeon and his surgical outfit, and essential to getting the specimen or part of it

The vaginal-route operation is not an easy one, neither is it as quickly performed as the suprapubic

Pus is not always found in the tubes and ovaries where their removal is demanded Firm and well-organized adhesions are often found binding the omentum, bladder, uterus, tubes and ovaries firmly together These adhesions were at one time Nature's breastworks thrown out for the protection of surrounding organs, but, like Nature's works in many other localities, she here fails to undo her imperfect work The vascularity or limit of these adhesions is only determined at the time of the operation An omental adhesion to the fundus may be torn across in the beginning of an operation, and scarcely a drop of blood escape, while in another, hemorrhage may quickly prove fatal A bleeding of this character is best controlled by a good ligature, such as it is only possible to apply in all cases correctly by the suprapubic method

A prolapsed uterus, surrounded by inflammatory diseased tubes and ovaries, can best be treated by a vaginal hysterectomy, removing appendages at the same time In this condition the uterus is not removed because of a fear that its infected state would preclude the possibility of a relief of the symptoms induced by the procidentia Some of these cases are cured by the removal of the appendages, a ventral fixation of the uterus, and a repair of the vaginal tears

Occasionally a gynecologist is called to see a case in the first attack, and finds the general state of the patient such that to attempt the major or curative operation would be fraught with a danger of such magnitude that it would be bad surgery to do otherwise than simply to make an incision into the mass in the vaginal vault and drain, with the idea of completing the operation at some future time All are agreed upon the course to pursue in such a case

If the case should prove to be a true pelvic abscess, one of those extremely rare cases in which the pus is extraperitoneal, or in other words, between the layers of the broad ligament, this seemingly minor procedure will be found, in the majority of instances, all that is necessary to effect a cure These cases are rarely met with in practice, and not so often in the literature of today as in that of former years To remove the uterus in such a case would be a sacrifice unwarrantable, as there is nothing to be removed but the pus

A failure to discriminate between this rare disease and the more common tubal disease, until in the midst of a vaginal hysterectomy, is extremely unfortunate, as it is then too late to retrace, while, if the incision was made suprapubically, the error would not be so expensive, and the correct course to pursue would be pointed out

It may be claimed that through a posterior vaginal opening the appendages can be examined, and the same deduction arrived at as though the abdomen was opened, but the fact must not be lost sight of that in these cases (true pelvic abscess) the pelvic peritoneum is clean and uninfected, and that a posterior opening endangers the safety of this structure A safe rule to apply here would be to cut into the bulging part where the pus is nearest to the mucous membrane

In the midst of a prolonged and difficult operation for the removal of the uterus and pus bearing tubes an alarming hemorrhage sets in, the exact source of which cannot be found The patient's abdomen is opened in the quickest possible time, with an imperfect asepsis, and the bleeding controlled, but three days later the patient dies from a peritonitis

The operator can not take the necessary time and precaution in preparing his instruments, his patient and himself, to do a clean abdominal operation, when the question of most importance is to quickly save his patient from hemorrhage The above remarks applicable to bleeding are of equal force in most instances where an intestine has been opened through the vagina Very few operators, I am sure would feel competent or able to put in a row of Lembert sutures, and make a closure of an intestinal rent that could be trusted to keep in liquid and gases

The mesentery, in cases where many adhesions are present, will be found thickened and shortened at the time of operation to such an extent that it would be impossible to pull a coil of bowel down into the vaginal opening, already filled with a dozen more or less, pressure forceps

In comparing the relative ease with which manipulation can be carried on through an abdominal incision and an opening in the vaginal vault, it must be remembered that the bony resistance met with by the impinging of the hand against the pubes is unyielding, differing very much from the pliant muscle of the abdomen under anesthesia

A small percentage of post-operative herniæ is found in following a large series of abdominal incisions, but these are discovered by the patient and not by the surgeon, and are not of such frequent occurrence as to be used as an argument against the suprapubic incision Time and close investigation of the vaginal cases will reveal an equal or a larger number of vaginal bowel protrusions

The length of the mesentery precludes, in most instances, the possibility of the intestine reaching the outer entrance to the vagina, and many vaginal intestinal herniæ will not be discovered by the surgeon owing to the return of the bowel when the patient is in the usual position for vaginal examinations In examining for a vaginal hernia, the examination should be made with the patient standing

It is not sound argument to advance that the woman with a vaginal operation can get up and be about in ten days, as it is not probable that the vault has healed so much more quickly than a smaller, clean, incised wound in the abdominal walls

One writer says "The abdominal scar is a source of great worriment especially to the French women, who are great admirers of a fair complexion and unblemished skin " A suprapubic scar and a low-necked dress may be incompatible in Paris Even some who held other views are made converts to this idea after visiting the French metropolis

Very few cases in abdominal surgery die from shock if the work of the operator is decisive and quick "Chronic surgery" and prolonged anesthesia kill many patients, regardless of the character or location of the pathology or route of surgical approach Septic patients endure anesthetics and slow surgery badly

One writer, and, by the way, a good operator, in praising the vaginal system, says "Landau has done good work, but in a great many cases he *opens the abdomen to finish* " (Italics mine) Landau is regarded as an expert surgeon yet in a large number of cases he is compelled in the midst of an already prolonged vaginal operation, to open the abdomen to finish his work, thus making two incisions instead of opening the pelvic and abdominal cavities This work can always be completed by the suprapubic route

Not a week ago, in breaking up universal adhesions, the appendix (which was diseased) pulled off at its cecal end, leaving a ragged opening in the cecum The discovery and closure of the bowel injury saved my patient Others have had similar experience-

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A Florid Adage for a Dissecting room —The legend of the old Ohio Medical College dissecting room was as follows "Hic locus est ubi Mors gaudet succurrere vitæ" —this is the place where Death rejoices to aid life

SIGMOID SURGERY FROM THE INTRA-ABDOMINAL AND INTRAPELVIC STANDPOINT

Presented to the Section on Obstetrics and Diseases of Women, at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo , June 7-10, 1898

BY J G CARPENTER, M D
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Diseases of the sigmoid have remained in practical obscurity, and the sigmoid per se, so far as the rectal specialist and general surgeon are concerned, have been a terra incognita November, 1885, the sigmoid cavity was first exposed with the light of research, and scientific truths observed in the living subject narrated and made a part of historic discovery by the writer The pathologist only knew diseases of the sigmoid as concerns malignant growths or benign neoplasms, or a possible sigmoid stricture, ulceration or fecal impaction, and what is now shown by Carpenter's sigmoidoscopy as a sigmoiditis with or without ulceration, was in the recent past supposed to be a proctitis or a colitis, the pathologist only dealing with diseases of the sigmoid as a postmortem observation Now, with sigmoidoscopy (Carpenter's) we are also able to not only explore the rectum in its entirety, illumine the sigmoid cavity, and with ocular inspection diagnosticate polypus or stricture of sigmoid, diminution of its lumen from encroachment of a tumor by pressure, or even a fecal impaction of sigmoid cavity, as well as the local inflammations peculiar to it It is surprising how little is known about sigmoidoscopy, or sigmoid surgery from the intra-abdominal standpoint Even our recent text-books in surgery, gynecology, and on diseases of the rectum and anus, do not mention sigmoidoscopy or sigmoid surgery from the intra-abdominal side, and he who advances must read the journals It is surprising how long it takes rectal and general surgeons to learn scientific truths about the anus and sigmoid when plainly told how to do so by the country doctor

Divulsion of the anus for disease is considered by general and rectal surgeons as a muscle operation, when in truth it is primarily a stretching of the nerves, and secondarily a muscle operation Rectal surgeons must learn that divulsion of the sphincters, besides its paretic and therapeutic effects on the lower end of the rectum and anus, causing rest, making the anus patulous and allaying irritability, curing pathologic lesions and doing massage, has another function, viz , nerve-stretching of the fourth sacral and inferior hemorrhoidal nerves, thereby cutting off connection between the spinal cord, the levator and sphincters, and placing at rest the bladder, rectum, vagina and perineum It is to be hoped that rectal surgeons will be able to see and learn this great truth and give the author due credit for the discovery The writer was informed about a year ago that a Louisville surgeon, in trying to illuminate the rectum and sigmoid cavity, punched a hole with what is called Kelly's sigmoidoscope into the sigmoid and entered the peritoneal cavity, and had to do immediate abdominal section to sew up the hole Had this surgeon used Carpenter's sigmoidoscopy, which is simplicity itself, full of reason and common sense, that hole would have never been punched He who knows how to do sigmoidoscopy does not need Kelly's superfluous and dangerous outfit, and he who has to use Kelly's ways should never attempt sigmoidoscopy

A prominent rectal specialist operated upon an aged gentleman about 60 or 65 years for internal hemorrhoids, and said, "Mr ———, you will be well in three weeks " At the end of this time the patient was a corpse from cancer of upper rectum and sigmoid aggravated by operation on the piles Had the rectal specialist used Carpenter's position and sigmoidoscopy before operation he would have been a wiser surgeon, and with more reputation, and not a sadder one now, and his prognosis would have been in keeping with his pathologic knowledge and true condition of his patient There is a vast difference between aseptic palliative surgery with bad prognosis, and complete life-saving surgery with favorable prognosis given, even in rectal surgery

Volvulus of the sigmoid is often difficult to diagnose, especially if patient has been battened with opium, and even now it is so common for practitioners to give opium to ease pain and conceal prominent surgical symptoms that otherwise would be highly indicative of surgical interference The symptoms of volvulus of sigmoid are former constipation, difficult to relieve, attended with distention and tenderness of abdomen or alternating with diarrhea, or following free purgation, severe exercise, indigestible food in large amounts, age of patient as a rule about 20 years, more often in the male than female, palpation may outline the volvulus, vomiting is often a prominent symptom, accumulation of fluid in abdominal cavity at a late stage of the strangulation, failure of bowels to act from purgatives or rectal enemata, or inflation with air, inspection with Carpenter's sigmoidoscopy Rectal enemata, even with patient in the Carpenter posture, will generally return if the hydrostatic pressure from the rectal side of volvulus does not distend and cure it By sounding, air inflation or hydrostatic pressure the sigmoid may become lacerated on its perineal side, torn, and leakage into peritoneal cavity result, with infection of the comma bacillus communi and other micro organisms and toxins, and rapidly produce septic peritonitis As delay and much taxis are highly unfavorable and dangerous to the welfare of patient, and the integrity of bowel in a strangulated hernia, so are palpation and rectal instrumentation with procrastination dangerous to life and integrity of bowel in volvulus of sigmoid With early prognosis, early diagnosis, quick, early life saving surgery, short anesthesia, with minimum of shock, under thorough asepsis, and before structural diseases have occurred, in skillful hands the patient's life ought to be saved

Diagnosis made of an intra-abdominal lesion demanding surgery Open abdomen in the median line if necessary, tap bowel with hollow needle or do enterotomy to let out gas or contents, with patient on left side, a short mesentery or intestinal adhesions, a constricting band or diverticulum or structural changes in bowel may greatly complicate withdrawal of the loops of intestine The bowel may not only be highly inflamed with linear tears of the serosa, but with gangrene at and beyond where the two flexures of bowel have been twisted on each other, and demand a section If bowel is healthy, return it to its normal position and stitch upper end of sigmoid to left side of abdomen, that portion of bowel opposite the mesentery, or as Senn states, shorten the mesentery, establishing a fold parallel to the axis of the gut If the flexure is gangrenous in spots, they must be resected, if gangrenous in its entirety, resect the whole flexure and unite bowel end to end by suture (Senn entero anastomosis, Murphy button, or do artificial anus) If the time is short, and anesthesia is making rapid inroads on the vitality of patient, do the latter operation, as it is attended with less shock, done with more haste and suits more cases, then later on do the radical operation

Stricture of the sigmoid from various causes demands similar life-saving surgery, according to the surgical demands and structural changes that have taken place in the bowel If a foreign body becomes lodged in the sigmoid and removal per anum is impossible, an abdominal section with enterotomy must be done for its removal

In malignant disease of the sigmoid we may be able to resect the growth, as Price, Senn, Bull and Hamilton have done, do an anastomosis or an artificial anus, the surgeon deciding on the condition of patient at time of operation and kind of intestinal surgery suited to each case, and his ability to do quick, life-saving surgery

That the sigmoid becomes seriously involved in intrapelvic disease, there is not an iota of doubt, that it has not been written upon by prominent gynecologists and authors of prominent text-books is surprising, to say the least Dr Joseph Price for years has demonstrated in his surgical clinics the lesions of the sigmoid, complicating surgical gynecology, and volumes might be written on surgical complications he has presented from time to time Those who know Dr Price best know he does pelvic and abdominal surgery without the Trendelenburg posture, but he has the *tactus eruditus* to a higher degree, and can see more with his fingers through a two-inch abdominal incision and discern more intrapelvic pathology than many surgeons can see with their eyes through a six or twelve inch incision and patient in the Trendelenburg position How common is it for the sigmoid to complicate tubal and ovarian disease The Fallopian tube, through leakage or infection in salpingitis, hemato- and hydro- and pyosalpinx, or ruptured tube in ectopic pregnancy, causes a local peritonitis of the left pelvis with a sigmoiditis serosa and adhesions to ovary, tube, uterus and bladder or an ovaritis per se may cause adhesion to the sigmoid and become imbedded in the broad ligament, the tube being in part or in total nested with the ovary and sigmoid, or there may exist an ovarian or broad ligament cyst fibroid or dermoid, and adherent to the sigmoid Again a pus-tube may be adherent to sigmoid on the left bladder in front, uterus to right, intestines above and broad ligament below, or an ovarian abscess, or multiple abscesses with pus-tube may complicate the sigmoid wall and the abscesses encapsulated in the pelvis by the sigmoid, bladder, uterus, broad ligament and intestines and omentum above, or these abscesses may from time to time, through pressure attenuation and maceration of the sigmoid wall, perforate the latter as well as the vagina, uterus, bladder, or peritoneal cavity, and leak or discharge and drain into the sigmoid cavity, and patient's life be saved by drainage and evacuation per sigmoid, rectum and anus How often in doing intrapelvic surgery do we find complications of sigmoid that is, by surgeons, especially Price s students, who have been taught to do thorough clean, life saving surgery and to deal surgically with surgical complications, as does Dr Joseph Price Often has the writer seen Dr Price curette the sigmoid wall, removing pyogenic débris down to the mucosa, healthy tissue, then repair this or these weak places by approximating serosa to serosa with the Lembert or continuous suture Again, he has seen this illustrious surgeon curette a sigmoid ulcer through a perforated sigmoid wall or excise necrotic spots with the longitudinal axis of the bowel and again repair the bowel with serosa to serosa, taking the Lembert stitch through the serosa and muscularis of sigmoid wall with the finest silk thread and needle The great reason why some abdominal surgeons have had great mortality following their work is that the needle and thread used to repair intestinal lesions has been too large, more like that of a darning-needle and thread Again, these surgeons have been afraid to hunt for and find sigmoid lacerations and other intestinal complications, and if found could not sew them Every physician who contemplates doing surgery should serve an apprenticeship in sewing with some good tailor or seamstress and have a skillful needle and scissors technic that comes only by practice, study and observation And every graduate should be examined specially on this, and the repair of gut lesions, before receiving his diploma The writer was raised on a large blue-grass plantation in Kentucky, and his mother used to make him take sewing and tailoring lessons when a young boy to keep him out of mischief and employed, so he was taught hemming, back-stitching, basting, darning, patching, tucking, quilting and embroidery, and his mother's sewing lessons taught him in childhood have been the greatest blessing to him in doing surgery The most delicate, refined and gentle sewing to be done is sewing the intestine for pathologic lesions and in plastic surgery one reason why intestinal suturing is so successful in skillful hands, viz , in inflammatory and traumatic lesions is, that if proper approximation of serosa to serosa is done, adhesive inflammation or agglutination of the serosa begins at once, and continues until definitive healing has been done in a few days then with fine needle and sutures there is no leakage Furthermore, the writer has been with Dr Price and seen excision or resection of sigmoid for stricture or malignant disease or benign neoplasm, and anastomosis with the Murphy button, or intestinal suturing or making an artificial anus when the strength of patient, the anesthesia, and the duration of operation would not permit of a surgical procedure of greater magnitude

The writer had the pleasure of seeing Prof Nicholas Senn do some of his wonderful surgery in entero-anastomosis and inguinal colotomy for malignant disease of rectum The best surgeons always try to do life-saving and not "*ideal surgery*," for the latter is *fatal surgery*, and should be done only in the dead house where the amateur surgeons should begin to operate It is a great thing to know just how much surgery the patient needs, how much can be borne with safety, and one had better do incomplete life saving and again operate at another time for complete life-saving surgery rather than do the "ideal and lose patient during or after operation The writer has seen the sigmoid ovary and tube, and appendix vermiformis adherent in one mass, the appendix stretching across the pelvis to sigmoid also the uterus retroverted upon the tubes and ovaries in Douglas pouch and sigmoid, bladder, tubes and ovaries internally adhered, so that it required the gentlest touch and manipulation and caution to find a point of cleavage and proper separation of the diseased organs without perforation Furthermore the essayist has seen in his own and Dr Price's of Philadelphia, uterine fibroids and dermoids attached intimately to the sigmoid as well as to the transverse and ascending colon and appendix vermiformis, omentum and mesentery, ovarian abscesses opening through the lower sigmoid and upper rectum with subsequent healing and contraction of the fistulous ulcers and scars has produced stricture of the bowel at these points The writer had the good fortune or misfortune to operate for appendicitis and organic stricture of sigmoid at the same anesthesia The sigmoid was extra long and the stricture relieved by the Murphy button anastomosis The appendix vermiformis was dilated size of thumb at its cecal end, inflamed and filled with soft feces and appendoliths, and required immediate appendisectomy

In conclusion, the essayist must state that all surgeons who do prompt, life saving surgery must camp upon the domains of pathology in abdomen and pelvis and do life-saving surgery, and will meet sigmoid and other intestinal adhesions that must be promptly separated, and there must of necessity be more or less serious intestinal lacerations that must be surgically repaired with as much precision, judgment and gentleness as a stab or gunshot wound of the stomach or intestine, and he who can skillfully and successfully repair these traumatisms will save more lives than he who does dashing surgery and neglects these intestinal lesions, trusting to nature To repair these lacerations it takes time, patience and perseverance, strong will-power and fortitude

The essayist cannot close without expressing the most sincere and profound thanks to Drs Price, Senn and Murphy for the valuable lessons learned through them in surgery and surgical pathology

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THE TREATMENT OF SEPTIC PERITONITIS BY IRRIGATION

Presented in the Section of Obstetrics and Diseases of Women at the Annual Meeting of the American Medical Association, held at Denver, Colo June 7-10 1898

BY T J MAXWELL, M D
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Septic peritonitis has been, and is now, to the surgeon, the practitioner of general medicine, as well as the obstetrician, a "word of fear" Forty years ago we groped in darkness as to its cause, and now we are about as helpless in its presence as to a curative remedy, as when the fathers practiced blood-letting with a free hand and gave cathartics in heroic doses, or, on the other hand, administered opium to narcotism, keeping the patient in this condition until the disease exhausted the patient or the patient wore out the disease We are no longer in the dark as to the cause of septic peritonitis, and have made vast strides in the way of prevention, if not yet successful in the cure of the disease when fully formed We have adopted the consensus of opinion of the best informed pathologists, that practically all cases of peritonitis are caused by infection, though they do not deny the possibility of its idiopathic origin It is not possible today to state positively that exposure to cold, strains, and rheumatism never directly cause peritonitis, but that they do is very doubtful

Septic inflammation of the peritoneal sac is amenable to the general laws that govern septic infection of other tissue The progress and termination of inflammation in this tissue are modified by its structure and function We need but to remind you that the peritoneum is a shut sac lined with epithelium Underlying this membrane and connecting it with the lymphatic system are numerous lymphatic vessels, to the extent that it has been called a great lymph sac, with large capability for absorption, as well as possessing the function to secretion The large capacity to absorb is not surprising, when we take into account the extensive surface In all its parietal and visceral enfoldings it presents nearly as large a surface for absorption as the integument that covers the body The older pathologists and surgeons wrote over against this organ "*nole me tangere*" We know that this is a false accusation, in proof thereof we have not only the daily operation of surgeons, in which it is roughly handled, but the interesting experiments of Rinne, who has shown that the peritoneum will absorb large amounts of septic material if not subjected to injury, and those of Pawloki, in which non-pathogenic micro organisms and sterile foreign bodies were introduced into the peritoneal cavity without evil results Much depends, in all cases, on the general susceptibility of the individual to infection and on the vital resistance of the peritoneum itself Where the susceptibility is great and the resistance feeble, death follows, and where the opposite conditions exist life is saved

Another factor that plays a large part in determining the result is the character of the infection, and the culture media in which it may find a ready soil to grow "The characteristic of primary lesions is the development of hyperemia of the membrane, with formation of more or less copious glairy exudate, which, if it is in any quantity, rapidly becomes organized and produces adhesions," which bind the coils of intestines together, attaching them firmly to adjacent organs The character of this exudate varies greatly with the severity of the inflammation and its provoking causes While the plastic element is practically a constant factor in its make-up, its general character may be purely plastic, serous, or purulent, and in very infectious cases, sanious The purely plastic variety occurs in localized areas as a rule, and follows any simple aseptic injury to the peritoneum, in fact, is nature's response to injury, with the express purpose of repair It conserves the life by walling off and limiting the spread of septic inflammation, resulting in a circumscribed abscess, as seen in many cases of appendicitis It occurs after all surgical operations, and rapidly unites opposing peritoneal surfaces, covering up and encapsulating, as it were, intra-peritoneal sutures The infective bacteria or their ptomains have a peptonizing or solvent power over tissue So, in infective peritonitis, we have this plastic exudate changed, modified, liquified no longer endowed with adhesive power of gluing togething opposing surfaces On the other hand, the exudate may be largely serous, sanious or purulent, owing to the nature of the infecting microbes—whether they be pus producing or not

A purulent peritonitis is also very distinctly a septic peritonitis, but clinically and pathologically we are forced to recognize the fact that, either through a difference in vital resistance or in the virulence of infection, the same classes of micro organisms produce in one case what we call septic peritonitis, and in the other the purulent form

Inflammatory processes not only differ in their exudates, but present different morbid processes, for the septic peritonitis is invariably widespread, involving the entire peritoneum, while the purulent form is often localized through formation of fibrino-plastic exudate, which limits its spread It is probable, however, that these difference are in degree, not in kind, for, in those cases of septic peritonitis which live long enough, the exudate, which would have appeared serous had an early autopsy been made, is distinctly purulent and often putrid, this difference in degree depending, as we have said, on the severity and variety of infection and the individual resistance In this form we find not only a copious exudate which covers the viscera, but fluid in large amount in the abdomen in-which float layers of coagulated fibrin Should death occur in the first twenty-four hours of septic peritonitis, as it often does, no well marked changes are visible to the naked eye, save in some cases the duskiness of the peritoneum, and the presence of sanious, blood-stained serum in the dependent parts of the abdominal cavity

In all forms of peritonitis the walls of the alimentary canal in the parts become friable and edematous, while their peritoneal coat is readily detached from the muscular layers Whatever may be the cause of original disturbance, the pathologic process which results in the peritoneum may be divided into three varieties It may be localized and plastic, general and sero-plastic, or serous, changing to purulent

My object in this paper is not to dwell upon the etiology, pathologic anatomy or symptomatology—which is generally acknowledged and well understood by the profession at large—further than to serve the purpose of confirming the rational principles upon which I base the proposed treatment

There are certain cardinal principles well understood by the profession in the treatment of septic inflammation wherever found, viz If possible remove the focus of infection, or by free drainage and irrigation dilute and remove the toxic products This method is generally relied upon rather than the destruction of the pathogenic micro-organisms by germicides The profession seem to be slow in applying these principles in a radical way to diffused septic inflammation of the peritoneum Drainage and irrigation are practiced in circumscribed inflammations of the peritoneum with excellent results in many cases But this method often fails, the infection spreads to areas not drained, and soon the patient succumbs to septicemia If we could introduce some hot non-irritating fluid into this great lymph sac in such quantities as would reach every square inch of its convoluted foldings, so that it would seek out and dilute the lurking poison, and by a constant inflowing current and a corresponding outflowing current remove the poison it would fulfill the indications of rational treatment The normal salt solution fulfills all of these requirements The following clinical cases will illustrate its use and effects

Case 1 —Mrs N , aged 40, was being anesthetized preparatory to the removal of a double ovarian cyst , during the exciting stage of the anesthetic she struggled with great vigor, which produced a rupture of the left larger cyst. The contents of this cyst we estimated would measure one and a half gallons and it was of a brownish color and mucilaginous consistence that clung to the abdominal viscera with such pertinacity that it required gallons of warm salt solution poured into the abdomen, and the free use of the hands, before it could be removed so as not to be detected by the sense of touch The empty sac together with a smaller right ovarian cyst, was ligated and removed A large glass drainage tube was placed in position and kept free by means of suction as often as any fluid accumulated

There was but little, if any, shock, and not much nausea and vomiting from the anesthetic, for the twenty four hours following the operation, the temperature and pulse remaining nearly normal during the same period But at the end of thirty six hours, thirst and vomiting increased, pulse and temperature crept slowly but persistently upward, until at the end of forty-eight hours the temperature was 103 degrees F , pulse 130 thirst intolerable, and vomiting every few minutes a dark brown liquid, restless tossing in bed, with mental faculties wandering My patient was fast sinking from toxemia and I determined to try what thorough irrigation would do to save her I had several gallons of warm solution prepared The glass drainage tube was drawn up two or three inches and the irrigating tube introduced but the fluid would not enter the abdominal peritoneum until the wall of plastic limiting exudate was broken up, then the fluid flowed into the abdominal cavity, distending its walls Another tube was introduced alongside of the irrigating tube through the glass drainage, and the water was discharged through it , about four gallons of the hot (110 degrees F) salt solution was used in the first irrigation There was a marked change in the appearance of the patient at the close of the treatment the face lost its pinched and haggard appearance, the pulse fell from 130 to 212 per minute, temperature from 103 to 101, vomiting ceased, and the bowels moved freely within a few hours , thirst was allayed, and the patient expressed a desire for something to eat, hunger taking the place of nausea Irrigations were repeated every four to six hours, that is as often as the temperature and pulse began to rise Each irrigation promptly brought down the pulse and temperature These irrigations were kept up at lengthening intervals for four days, when the temperature and pulse remained normal

Case 2 —Miss M , aged 23, was brought to St Joseph's Hospital with a history of chill, followed by high temperature, irritable stomach, tenderness over lower abdomen, with gradual development of tumor in right iliac space This tumor suddenly disappeared, discharged without evacuation from vagina or bowels Pulse kept rapid, temperature 103 and upward Emaciation progressive In a few days the tumor began to rise or be manifest to palpation, and was six or seven inches in apparent diameter when brought to the hospital Her temperature was 102 to 103 degrees F , and pulse ranging from 120 to 130 per minute when she was operated on On opening the abdomen a tumor was presented, that was adherent to omentum, intestines and pelvic wall, whose cavity it completely occupied In attempting to separate the adhesions the tumor sac ruptured and a half gallon of very offensive smelling pus flowed , part mingling with the viscera, part externally The sac wall proved to be separated folds of the broad ligament The sac wall was emptied and stitched to the lower angle of the wound in abdomen and packed with gauze There were quite extensive adhesions of the bowls together and also to abdominal wall and omentum These I separated by introducing the hand into the abdomen, at the same time flushing the peritoneal cavity with liberal supplies of hot solution—temperature of solution about 110 degrees F —poured from a pitcher The coagulated lymph that coated the bowels was easily removed by slight friction and came away in flakes with the refluent current The temperature and pulse dropped very considerably, as observed soon after being put to bed Drainage of abdomen by glass tube was carried out as usual, by withdrawing the fluid accumulation every forty to fifty minutes Temperature and pulse began to rise in twenty four hours which was promptly controlled by free irrigation with hot salt water This treatment was repeated every few hours, as often as temperature showed tendency to rise or pulse to increase in frequency, each time promptly reducing both This treatment was kept up for four or five days, until there was no longer a tendency to rise of temperature or increased rapidity of pulse

There was in these two cases prompt reduction of temperature and pulse-rate each time the irrigation was repeated The salt water acted as it were by transfusion through the peritoneum, producing free liquid evacuation from the bowels Vomiting ceased immediately after first irrigation, thirst disappeared and the first patient expressed a desire for food within two hours after treatment Irrigation of the peritoneal cavity for septic inflammation or infection is in accord with the rational treatment of infection in other tissues, that is dilution of the infection and removal by free drainage Disinfection by germicides can scarcely be accomplished in any tissue We would not think of using a germicide in this great lymph sac The hot (110 degrees F) [illegible]ion irritant to either mucous or serous surfaces, it does not dissolve and remove the epithelial covering from either surface, as does pure water The heat stimulates the flagging heart and nerve centers The rapid transudation through the capillaries and lymph spaces of the bowel coats dilutes and flushes out the toxins already there This is demonstrated by the marked relief so promptly manifest in heart's action, temperature and cerebral function In order that this treatment be efficient it must be thorough, that is, the irrigation fluid must reach every part of the infected peritoneum This can only be accomplished by using large quantities, and where there is plastic exudate, sealing the surfaces together An opening in the abdominal parietes must be made sufficiently large to admit the hand, and with the fingers deftly separate the adherent parts, and with gentle friction detach the coating of coagulable lymph, for it is infected While this is being done a good stream of the irrigating fluid should be kept constantly circulating, so as to wash away the detached flakes of lymph, as well as the infected culture fluids and pyogenic cocci

The saline cathartic treatment of septic peritonitis, as practiced to a large extent by modern surgery is rational, and is successful in cases where the focus of infection is limited It sidetracks the toxins on their way to the general system But it fails in the prime indication to remove the center of production Irrigation does both If the focus of infection be in the sinuses of the uterus or its adnexa, removal is indicated, without hysterectomy irrigation of the peritoneum secures more perfect elimination by way of the mucous surfaces of the bowels than any other method

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THE MEDICAL TREATMENT OF APPENDICITIS

Presented to the Section on Practice of Medicine at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10, 1898

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There are no new truths, but there may be new phases of that which is old Progress means the development of new applications through invention and study Onward and upward is the direction in which the scientific world moves, and no one dares forestall the possibility of discovery in medicine that awaits the higher intelligence The bases of the unknown triumphs which will be the happy surprises for the future have their preparations in the knowledge and handiwork of the present The tools increase in delicacy, and number and become more and more adapted to the work of attaining the ideal of crafty man Methods of using old forces for pleasure or service in the arts and the sciences have greatly changed, and the evolution is for good The betterment is often a question for doubt by the pessimists, but judged from the standpoint of the universe, not by the little circle in which one mind operates, the roll of the years brings advantages to each succeeding generation which the preceding did not live to witness Everything moves toward some new standard or away from an old one Nowhere is the work of change more clearly revealed than in the duties and privileges of the practice of medicine Education teaches every man to think for himself, the printing press now puts that thought into imperishable tablets And what a monster tablet it would require to give a place to all that is said lately on the subject of appendicitis For one, my belief is that every new thought which is the honest opinion of the mind should be spoken, even if it be but a repetition

Who among physicians, then, is entitled to speak with authority upon disputed questions, for it is the experience of all of us that we claim the privilege today of correcting the errors of yesterday My plea is for an open mind in the consideration of medical practice Exclusive surgery desires to assume the responsibility for the treatment of the inflamed appendix, based upon the belief that it is only surgery which possesses the magic of cure Some physicians think that too much dependence is placed upon surgery, and that it is in many cases a dangerous intrusion without warrant These two classes are the extremes and it is well to understand the limitations of the question before us It is sometimes surgical, but more frequently medical, and as general practitioners it is desirable to examine the possibilities for good that are included in the medical treatment of appendicitis

The cause of appendicitis is seldom if ever exactly determinable, but as a rule, the health of a part depends upon the vigor of the general system When the symptoms of a localized disturbance in the intestine or appendix reach a point of sufficient importance to require medical counsel, the highest welfare of the patient calls for a conservative method of treatment which will prevent as far as possible the danger of subsequent complications and surgery A healthy body will not favor an appendicitis, while a safe and rapid return to health, if it is impaired, will either prevent visceral inflammation or be the wisest course in the cure General measures first and localized afterward, is a broad and effective plan of action in therapeutics

An immediate, but not the first, cause of appendicitis, is a partial or complete clogging of the circulation in the vessels of the appendix No satisfactory explanation known to the profession will cover every case The first determinable effect is congestion, closely followed by exudation of serum and lymph into the mucous and muscular tissues of the appendix and its environment The exudate stops both venous and lymphatic circulation, which is naturally followed by swelling of the mucosa and other structures of the organ Whatever particles of fecal matter happen to be within the canal of the appendix at the moment are either pressed out into the cecum, or they may be dammed off by a stricture and retained, and in consequence, undergo certain chemic changes The material may be crystallized by chemic action (the appendolith), or dissolved and reabsorbed, or discharged into the intestine if the swelling of the appendix subsides without destructive inflammation and rupture into intestine or peritoneum With what is happening, pain is likely to be a prominent symptom at the point affected, yet in some cases pain is absent But in any case there are enough symptoms from which to safely form a liberal and inclusive treatment of the patient, also broad enough to include the local part

It is probable that vasomotor control of the artery of the appendix and its branches is temporarily either depressed or exalted, and that there is for this reason too much blood or not enough in the affected part, each of which conditions could be the factor of danger in suitable cases Inflammation ensues upon congestion, destructive changes take place rapidly under the influence of an increase of heat and chemic decomposition of fluids and tissues, and at this stage the bacterial scavengers are present to help remove the retrograde products of inflammation The microbes are regarded as incidents of disease and pathologic change, and serve a further useful purpose in that their presence in excess occasionally confirms diagnosis They may confirm but not necessarily affirm diagnosis

The power to create as well as to cure disease resides in the body and never outside of it At this stage of appendicitis it is purely medical, and if always rightly treated it could not be surgical, save in certain and rare instances If neglected or improperly managed, secondary changes follow, such as ulceration, sloughing, necrosis and rupture, and even in these conditions spontaneous cure is possible and frequent But it must be admitted that in such cases the safer course is to employ the assistance of surgery

As soon as the physician suspects even that there is a possibility of appendicitis, upon first seeing his patient, the safe course is to be on the guard, and by this is meant to treat the patient, rather than the disease, with the view of preventing that which is suspected, or if too late for that, proceed in such manner as to actually give the best chances for a rapid recovery, and thereby provoke the least damage to the abdominal viscera

In all acute inflammatory diseases of the intestines my experience proves that food should be withheld from the patient for one, two, three or four days In cases where fever is a prominent symptom, the precise and life-saving course warrants the forbiddance of all food so long as the elevated temperature remains All alimentation, either by mouth or rectum, can be but partially digested and assimilated during the active stage of inflammation Even that amount of food which is capable of assimilation is in excess of the needs of the system at this stage of the case, and such nutriment as is not completely digested is a further increment of danger, together with other waste matter which forms the material for retrograde chemic action and autoinfection When food is needed a keen hunger will properly indicate it, and at such time moderate feeding is permissible, at regular and long intervals The hours for meals should be seven, twelve and six o'clock, as nearly as practicable Food too frequently given is a general mistake for which there is no justification The selection of food is important A diet of fresh vegetables and prepared sweet fruits stands highest in effectiveness, besides, it is better relished by the convalescent Good vegetables are procurable at every season of the year and in almost every locality, and always suitable The diet need not be exclusive, although a liquid one is freely advocated by some physicians as the best Nor is it strictly important that meat be omitted indeed the diet could be a mixed one if actual hunger is made the guide as to when the feeding should begin The main point is not to begin alimentation too early not to give too much or too frequently, and with particular instructions for most thorough mastication Casciani concludes from experimental studies that

1 In disease or during convalescence; a diet of fresh, well prepared vegetables diminishes urinary toxicity

2 Urinary toxicity is greater where the individual lives on a mixed diet and less where a vegetable diet is adopted

3 A meat diet increases urinary toxicity in direct relation to the quantity consumed

From the beginning of the treatment, six to eight ounces of fresh, pure water, administered with disciplinary regularity each half hour or each hour for the first, or first and second days of treatment, then if the case improves, let the intervals be two hours is a therapeutic resource of striking simplicity and exact scientific value The only valid counterindication is the use of discretion in disturbing the patient should he be asleep, none other exists to my knowledge Internal hydrotherapeutics are coming more and more to be accepted as the line of investigation upon which a sound basis of treatment is possible Recently the University of Heidelberg voted this branch of therapy into a full professorship, thereby recognizing the importance of less and less employment of drugs

It has been observed that a free use of pure water is an effectual laxative, obviating more drastic methods The laxative effect is aided by dissolving small pinches of common salt in draughts of hot water, given at the regular intervals Purgation is desirable, but when the intestine is undergoing active inflammation, harsh purgatives are seemingly useful, but actually harmful This is owing to the irritation excited in the mucous walls of the intestines, and also to the fact that the purgation is at the expense of the constituents of the blood

The hot saline or soapy enema will free the colon by quickly washing down the fecal contents The small intestines need no purging, for fermentation and decomposition are generally to be looked for in the ascending and meso-colon Such cleaning of the small intestine as may be useful will naturally follow upon the administration of hot water by the mouth, and from the effect of hydrostatic enteroclysis It requires two to three quarts of solution to ascend the colon and reach the cecum in an adult and one half the quantity in a child Irrigation is best given in the knee-chest position, though it is immaterial in what position the water enters the colon, so long as the quantity introduced is sufficient to partially distend the bowel all the way up to the cecum It may not be able to accomplish this satisfactorily in all patients, or perhaps not at the first trial But the water can be made to go to the cecum and do its bidding as far as the opening of the appendix, if used with a little patience and perseverence The colon, free of its contents, is an important beginning in the management of acute appendicitis as well as in other forms of enteric inflammation A short rectal tube, four to six inches long, of large caliber is the one now commonly used, the long tubes are no longer generally employed Water with pressure behind it will find its way more safely and naturally without the use of a special colon tube, which in practice may get no farther than the rectum or first fold of the sigmoid flexure

The oil treatment of appendicitis consists of the substitution of either sweet or olive oil for the plain or medicated water enemas and to some extent oil is administered by the mouth The results are said to be highly satisfactory which no doubt they are, though personally, my experience is limited to a few cases

It is possible and safe to use morphin and codein for the temporary relief of pain without impairing an inclusive diagnosis or the chances for rapid recovery provided the more important features of the treatment are faithfully and skillfully instituted and continuously maintained Of this there can be no doubt in acute cases seen at the beginning or at least early If the practitioner has not sufficient experience with practical hydrotherapy to feel like placing his whole confidence in it, a moderate administration of reputed internal antiseptics will do no great harm if the foregoing hydrotherapy is not neglected The advantages from prescribing the so-called internal and intestinal antiseptics are based upon belief and can not stand the test of unbiased experiment Dr Turck and others have sufficiently demonstrated the truth of this statement for all time to come

At the last German Congress of Internal Medicine, April 13, 1898, the addresses on "Intestinal Antisepsis" and "Autointoxication" proclaimed the paucity of our knowledge on this subject and the worthlessness of all antiseptics for this purpose They are only kept in vogue by the advertisements of the manufacturers Only one or two voices were raised in dissent to this timely and sweeping condemnation, which leaves only prompt evacuation of the contents of the stomach and intestines for our reliance in intestinal autointoxication The German profession has reached this sound conclusion rather late, but still in time to correct an abuse and thereby better serve their patients in the future

In severe cases of painful appendicitis cold water applied to the affected area of the abdomen is grateful to the patient and helpful in allaying both pain and excessive heat, consequently such applications aid in hastening restitution of the inflamed appendix My favorite compress is a small napkin saturated with ice water, frequently renewed, with a piece of flannel laid over it as a protective against wetting the bedding The ice coil and the ice bag, if not too weighty, are convenient and useful Gentle massage of the abdominal wall contiguous to the appendix is beneficial in cases where the inflammation is not of the fulminating character Sometimes a cold compress may be advantageously followed by one wrung out of hot water But where there is excess of local heat with fever, the cold works better, all things considered The hot poultices of flaxseed and other slimy material confer no important benefit upon the patient, their chief claim for usefulness depends upon an old tradition too sacred to be suspected by the unwise friends of the sick, and unfortunately the medical adviser himself even in some great centers of medical teaching indulges in this ancient but bad practice Where a hot poultice might benefit one of these cases ninety-nine cases would be injured The affected area needs no further heating, but on the contrary, the aim should be to arrest the inflammatory process by the cooling and tonic effect of cold water applications Tonic and stimulating aidance to the nervous system, often badly needed to arouse the bodily vigor and resistance, is assisted by brisk rubs along the spine by the hands dipped in cold water, or with a sponge cooled in ice water The effect is very frequently a magic influence for which nothing else in therapeutics can be a substitute The cold shower or spray would be still better if it were convenient, and the patient was disposed to submit, a thing not always to be secured, because of an unnatural fear instilled into the mind against cool water as a remedial agent Hot water used in the same way would act satisfactorily as a substitute if the objections against the cold water could not be overcome It is to be remembered that hot water is next in importance to cold in a therapeutic sense, and may in suitable cases be substituted for it

Bodily bathing in sickness is today almost uniformly employed, it is therefore but necessary to mention it If the fever runs high, the greater the importance of speedily lowering it by natural means, and the combined influence of internal and external usage of water in large quantities will more quickly and surely bring about a normal temperature, when safety and permanency are considered, than is possible with chemicals If there are those who would use the chemicals, let them not omit a full and thorough application of water therapy and its auxiliaries, such as good nursing, pure atmosphere, sunlight and sunshine freely admitted to the sick-room, together with that most urgent therapeutic measure of total abstinence from food during the first few days of the sickness

General massage has a place in the treatment of appendicitis, in that it supplies the physical exercise essential for the highest interests of circulation, respiration and digestion Ample resources are possessed by a body whose vigor is conserved during acute localized inflammations to check destructive tendencies and restore order In fatal cases it is the disordered state of the system that makes death imminent, and not the appendicitis, for the latter is a symptomatic expression of bodily sickness Ulceration, sloughing and even necrosis are not necessarily fatal in a body fortified with hydrotherapeutic management

Rupture sufficient to permit of the escape of fecal products into the peritoneum, according to Morris, would seldom happen if medical treatment from the inception was properly understood and directed The same author and operator further candidly affirms that medical treatment would save all but a few cases from the need of surgery, if medical practice was inclusive and scientific But if a choice is to be made between an up to date, skillful surgeon and an average physician, he decides that the chances of the patient would be better subserved by the former Under the aggressive teaching of modern surgery' many physicians are apt to lose courage in the attempt to control appendicitis, and it is not strange where the sole dependence is placed upon the healing effect of purgatives, opium, poultices and so-called intestinal antiseptics, and in those cases where that mistake of forced feeding at frequent intervals is permitted, together with other errors of medical management, it is quite natural that alarming symptoms should occur leading to a possible surgical crisis requiring an operation A rupture with escape of fecal filth into the peritoneum is not a pleasant thing, but it would rarely occur, according to the experience of one of the foremost surgeons, if the physician was capable of doing his whole duty properly and at the right moment

Large abscesses, wherever located, menace health and life, but there are conditions which make the presence of pus less dangerous than an operation would be in an unsuited condition of body In such cases the physician and surgeon wisely co-operate, thereby justly sharing the responsibility An abscess which is reasonably accessible in or through the abdominal wall, the same as elsewhere in the body, is easily opened and drained, but amputation of the appendix for a thickened mucosa or for almost any other reason save rupture, or where there is positive diagnostic certainty that rupture into the peritoneal cavity is imminent, frequently furnishes cases for the surgeon which still rightfully belong to the province of medicine

Chronic cases should come under a modified plan of treatment based upon the principles herein set forth, and kept within the control of the physician till all the symptoms are long since passed A healthy colon is the most important salutary factor in every form of appendicitis, for a clean colon is likely to be accompanied by a healthy appendix If there is a danger of appendicitis or if it has already occurred at some previous date, the successful way to prevent interval and other forms of appendicitis lies within the reach of such an one who happens to have a physician who comprehends, first, the value of regularly cleansing the colon once a week, by the hydrostatic injection of two to three quarts of blood-warm water The second great requirement for prevention of recurrence is moderate bodily exercise, performed with daily punctuality The third is moderation in eating The fourth is the habitual use of a sufficiency of pure water as a drink to satisfy the requirements of a body that is more than three-fourths fluid

There remains one point more, the experienced and really capable physician is entitled to a fee proportionately important to that which surgery expects, when the equivalent in service is rendered Medical treatment strives to save and prolong human life, and when the result to the patient is the same, whether through the assistance of surgeon or physician, why need the fee be widely different? The fee of $500 to $5,000 may or may not be too much for an appendectomy, but if the same end is safely and satisfactorily attained by the practitioner, why should his fee be less than that of his surgical contemporary? When the emoluments for medical work, skillfully and successfully accomplished, whether by surgeon or physician, are relatively similar, there will be an incentive for closer co-operation, higher medical thought and better treatment than prevails in some places at this time The practitioner is entitled to the full equivalent in exchange for intelligently performed services in the conservation of human life, and that equivalency should correspond to the measure of success in each case treated, with a proper and due regard for the skill, experience and years in medical practice

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III DISCUSSION

Dr E A J **Rogers**, Denver—One has no idea how refreshing it is to one who has so long been in the dark to hear a physician offer, with such assurance and confidence that appendicitis can be treated medicinally with such results as he has stated I congratulate him upon the successful treatment he has given his patients in this disease From my standpoint I differ with him I am in doubt whether absolute medicinal treatment can be relied upon in appendicitis If any medicinal treatment is good, that which Dr Lee outlines is the best I have heard If men would follow more conservative lines many cases that now must be operated upon, sooner or later, would not have to be operated upon

I find myself diverging from Dr Lee in regard to the remarks made early in his paper his points in regard to etiology are different from those I was taught to believe in The primary cause of appendicitis I formerly believed to be a mechanical one The mucous membrane of the intestine is cleansed by an antiseptic fluid which is always present. Here may be found a little defect, and sometimes a little cul de sac, and here we find a stasis in the normal cleansing process Now, the organisms which Dr Lee has mentioned come in and play an important part Now then, the important point over which surgeons have been fighting comes in—what is the infection which causes the trouble? So soon as that can be determined, and we can state how the infection comes in, then we can lay down definite rules to guide us, then lay down rules as to what are medical cases, what surgical cases, and what cases are best to let alone Before this time, we are treating appendicitis in the dark

Yesterday afternoon, in the Section on Anatomy and Surgery, intense interest was given to the discussion which took place on the subject of appendicitis, this Section should have discussed this subject there in the surgical department and the whole topic studied together

A great point for us to consider is the nature of the infection So soon as this infection takes place, swarms of organisms begin their work of destruction If nature is able to master them, the disease is a trifling one, but if not, death may follow This point is an all important one, and it is the inability to determine this point that prevents us from forming the rules I just mentioned

Of course, there are surgeons who claim that this disease is absolutely and entirely a surgical one, but their arguments will not hold This disease should be treated by the physician and surgeon together If the surgeon is simply a mechanical one, then Dr Lee is right in not calling him in the beginning of a case, but a true surgeon is one who avoids the knife A true surgeon is one who knows how and when to use the knife If Dr Lee had a surgeon he could trust and rely upon, he should allow him to see the case in the beginning I do not believe that Dr Lee can tell in the beginning what course the disease is going to take, and it is only fair that a conscientious and careful surgeon should be called in the case from its very incipiency I must say in defense of the surgeon, if we trust him, call him early

Dr **Henry Sewall**, Denver—From personal knowledge on the subject I can agree heartily with what Dr Lee has said, particularly on the discussion between the physician and the surgeon I speak from the physician's standpoint You are called to see a case suffering from symptoms that suggest to you the idea of appendicitis, at least, it presents itself to you in a manner dependent upon subjective data If the observer believes pus has formed then no medical treatment, if the observer believes that inflammation is going on to pus formation then no medical treatment these are cases for the surgeon I suppose the common treatment of today is to eliminate functional disturbances which may give rise to symptoms There is no one here who has not found typic symptoms of appendicitis disappear like magic when the colon was thoroughly emptied, but, if the symptoms are not relieved, then the case calls for the exercise of judgment It seems to me that the average physician should take a place mid way between those who urge that every case of appendicitis should be operated upon and those who do not operate upon their patients until almost the time of death I will only say this, that suppose you let a case of appendicitis go on to recovery—so called—under medical treatment the treatment the reader of the paper suggests in the body of his work, you expose the patient to certain dangers Not long since I had under observation a patient who had multiple abscesses of the liver, at the autopsy there was found a cecal abscess The man disclaimed ever having had symptoms pointing to appendicitis I believe these cases are quite common, in my experience I have seen four or five of such cases I can not help but think that cases of appendicitis are to be regarded as cases that belong to sanitorium care

Dr **Herrick**—I have heard the question discussed ably and well from different standpoints, this question was discussed in the surgical Section at great length The physician and the surgeon are antagonistic in the consideration of this subject, the former dealing with certain phenomena and the surgeon dealing with the facts I make a point that the physician has different ground to stand upon than the surgeon

The question has arisen as to the cause of the disease Are not all processes of digestion due to the secretions? The intestines and their attendant glands are of the first importance and consequence If that is so we may well look to the condition of the secretions As a matter of fact we generally find in appendicitis disturbances of the secretory organs Disturbances of the liver and other disturbances cause changes in the whole portal system disturbances of the natural secre tion cause a disturbance of the colon As a result of irritation we have congestion of the veins of the mesentery, presently we find a cause in the distension of the colon from the impairment of circulation and secretion a subacute inflammation follows An impaction of the intestine with fecal matter is then noted It is this condition of impaction of the colon with arrested secretion that, in all probability, is the cause of appendicitis, at least, it seems to me to be so Let us not cut off the appendix, let us not give up the idea that we can relieve these patients Treatment by diet is successful I have practiced medicine thirty seven years, and I rarely lose a case of appendicitis In the last ten or twelve years I have lost but four cases As to the treatment, one generally applies ice bags Do not give opium or anodynes

Dr Baily, Kentucky—I am a little skeptical about Dr Lee's promising as much as he claims by the methods mentioned What has he done in this line? How many cases of appendicitis has he treated by the methods mentioned, and with what success? As a general practitioner, I am bound to say that the diagnosis at the very beginning is the most difficult one to make, and it is at a time when it is most important that we should make it Realizing the responsibility, I am most willing, as early as I suspect the disease, to call in an intelligent surgeon, I have never called one in where I have had reason to regret it In the majority of cases the general practitioner should have a consultation with a skilled surgeon Many of these cases get well without treatment, but the surgeon who can do the operation without mortality ought to give the patient a chance for his life

Dr Tyson, Philadelphia—I have but a few words to say, and in confirmation of what Dr Baily has already said I believe that cases of appendicitis are difficult of diagnosis My experiences lead me to believe that many cases of supposed appendicitis that get well under medical treatment were not cases of appendicitis at all In cases of appendicitis I want a skilled and competent surgeon, not for operating, but for his judgment. I have had surgeons who have had more experience than I have had, their judgment will help me If I am satisfied that appendicitis exists, I am willing the appendix should be removed

Dr Walker, Philadelphia A gentleman, who lived in Philadelphia was seized with appendicitis, I attended him through the attack and at no time did the surgeon or I think that an operation was desirable The gentleman desired to leave the city, and he was advised, therefore, as there might be a recurrence of the attack, that it would be better for him to have an operation performed The patient was perfectly well, and rode much about the adjacent country, on the street cars, etc, with no temperature or any evidences of trouble A day was fixed for the operation At the time of operating, there was found one pint of pus back of the colon, this had given no evidence of its presence or pointed toward any danger to life To me this was a very interesting case, I thought the patient was cured of his appendicitis, but he was not. The appendix was swollen and perforated

During the succeeding year I saw a case that no one would admit the necessity of operating upon He passed through the attack, later, the surgeon again saw him He was examined, but there was no evidence of disease whatever This year, in May, he was taken with symptoms of typhoid fever I happened to be present in the doctor's office when he mentioned the unpleasant symptoms The doctor prescribed for him, and he was treated three weeks for typhoid fever I reminded him of the previous attacks of appendicitis, and I thought of a pus collection somewhere A pus sac was found, and the patient is now perfectly well The pus had been lying there from June to May This has been a lesson of value to me Although I believe that the majority of cases are cured by medicinal treatment, still we can not be too careful

Dr James, of Missouri—I have been led to believe that appendicitis was a disease that belonged exclusively to the surgeon, and that the general practitioner had no right to claim any knowledge of the disease Public sentiment demanded that the cases be all turned over to the surgeon

Water is of great value in the treatment of this disease both internally and externally, I also like it used per rectum I have used the cold applications as described by Dr Lee and I use it especially if there be high temperature But, I prefer the hot applications, because, as a rule, the temperature is rarely above 102 F I have overcome the demand for anodynes I instruct the nurse to keep up the hot applications even at the expense of rest

Dr H A West, Galveston, Texas—I can not conceive any more important subject in medicine than this I array myself on the side of many here in combatting the idea that any antagonism between physicians and surgeons exists as mentioned The responsibility of the physician arises from the fact that he is usually the first to see these cases they come to him in the first place The man that assumes the responsibility to himself of treating these cases as medical ones and imagines antagonism as mentioned is assuming a serious responsibility His first thought should be the care and cure of his patient So far as medical treatment is concerned, cases that get well recover by themselves Medical treatment amounts to extremely little As Dr Tyson has said, when the diagnosis of appendicitis has been made, I want the advice of an able and experienced surgeon, I want one who has had the opportunity to see many of such cases It seems to me that it is the physician's duty to call to his aid a surgeon I have seen a patient with a normal temperature and pulse and who was feeling perfectly well, yet a perforated appendix was found, nothing short of an operation would have saved that case Water given internally, externally or eternally would not have saved such a case

Dr C F Ahrer, Fort Madison, Iowa—I desire to say that we are all more or less influenced by our prejudices or peculiar trends Many men who have a surgical trend or prejudice naturally desire that all diseases may become surgical, and must so be treated, and men who have a medical trend wish to cure everything with pills and powders In some cases both these men are wrong The attitude of surgeons toward physicians in smaller cities and country districts, when the struggle for existence is the prime factor is not as charitable as it should be, and when we remember, though we are all good fellows, that in many men the hog principle is not yet all rooted out, this attitude coupled with the trend to cut often works infinite mischief to the physician and to his patient. Again, in these districts outside the large surgical centers where honest and competent surgeons can be had without the drawbacks above mentioned the population are not trained to accept surgical interference when needed In places where good surgeons are not to be had, if I had appendicitis I would rather trust a good physician than a bungling incompetent surgeon, for in the former case I might recover, in the latter I must surely die Were we less fallible and more honorable than we are, we would always do the proper thing, but until then we shall have the same troubles which now beset us So in appendicitis, as well as in other diseases, we are often controlled by circumstances, and under such circumstances we can do only what we honestly and conscientiously believe to be right If we do this our patients have little to fear

Dr Elmer Lee, New York—I recommend the reading of the paper at your homes, because the answers to the questions raised by the gentlemen who have spoken will be found there I stand before you to plead for the lives of the patients, and in so doing it is my experience after seventeen years of medical practice, that many lives are in jeopardy through the mistakes of the doctor or of the surgeon or of both I am not an exclusive I believe the methodical work of the physician is to be considered foremost because he is the one to see the patients first If the physician did his whole duty in the incipiency of the case few cases would go to the surgeon Recently a child, in Boston, was taken sick with pain in the abdomen The doctor administered opium in the night The next day the doctor came again and gave a purge The next day he came and continued the treatment The next day he came and the child was considerably worse for the treatment A surgeon was called—about four or five days after the beginning—and an operation was decided to be necessary The child was operated upon and died He had been a healthy vigorous boy, but he ate too much candy and food and took but little exercise The condition which produced the fatal termination I am sure could have been cured by the intelligent application of the lines laid down in the paper When I find that I am mistaken in my views I will be happy to come to you and acknowledge my mistakes The physician does not stand equal with the surgeon in these modern days, and a stigma rests upon the medical profession I am trying to overcome it, and it seems to me it can be overcome It appears to me that it is within the range of medical treatment to manage the vast majority of inflammations of the abdominal viscera

I have not paid much attention to statistics I plead derelict in coming before you without mechanical statistics I do not know much about them If patients do not die that is all sufficient for me I can not tell if perityphlitis, appendicitis or colitis exists, it is impossible for a physician to verify what was a diagnosis of appendicitis, that is only possible for the surgeon who has a mechanical result, it can not be done in medicine It is only my opinion that those cases treated by me have been cases of appendicitis, it may involve the colon or the cecum I do not know how to make an absolute diagnosis, it may be done in this country and in Europe

COLPOPERINEORRHAPHY AND THE STRUCTURES INVOLVED

DEDICATED TO DR THOMAS ADDIS EMMET AND MR LAWSON TAIT IN RECOGNITION OF THEIR LABORS IN THE SURGERY OF THE PERINEUM

BY BYRON ROBINSON, B S, M D
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CHICAGO ILL

The structures involved in the repair of a defective perineum are muscles and fasciæ The operative procedure consists in denudation with coaptation or flap-splitting methods Notwithstanding the successful claims in the varied surgical methods of colpoperineorrhaphy the anatomical basis is neither generally nor perfectly understood It is probable, however, that the essential success lies in the reunion of the separated levator ani muscle by means of its fasciæ superior and inferior with some other fasciæ, and also that this success has been chiefly due to deep suturing The object of this essay is to demonstrate that the chief factor in successful colpoperineorrhaphy is the restoration by the aid of deep sutures of the fasciæ, especially the levator ani fasciæ, superior and inferior

The muscles of the pelvic floor may be divided into two classes *a*, the deep layer—the levator ani coccygeus and pyriformis, *b*, the superficial layer—the transverse perinei, bulbo cavernosus and sphincter ani externus A peculiar characteristic of the muscles of the pelvic floor, and one which demands respect in colpoperineorrhaphy, is the extensive fascial attachments of one or both ends of the muscles The levator ani, the bulbo cavernsous and the transversus perinei have a fascial attachment We will consider in detail the muscles and fasciæ involved in colpoperineorrhaphy The basis of this labor is a careful anatomic investigation with considerable clinic and surgical experience

THE LEVATOR ANI MUSCLE

The levator ani muscle is perhaps the most difficult to understand as regards its form, insertion and function The origin of the muscle is sufficiently plain and is considered established by anatomists Few agree as to exact insertion, even at this late day, and opinions vary as to the exact function, form and insertion of this muscle, My own investigations demonstrate that there is a foundation for these varied opinions

1 The insertion and origin of the levator ani vary as to the extent of distinct muscular loops which embrace the rectum and vagina, as to the tendinous raphæ (between muscle loops and distal ends of the coccyx), also regarding the precise relation to the vaginal wall, whether muscular or connective tissue, and also as regards the exact relations to the muscle of the lower end of the rectal wall Moreover, its partial fascial origin and insertion is sure to endow the extremities with varying appearances as to the length of the fascial or tendinous conditions in other words the distance of the red muscular fibers from the extreme origin and insertion of the levator ani vary Perhaps this variation in insertion may be explained by considering the levator ani as a rudimentary muscle and to be disappearing with the tail Its double fascial accompaniments complicate its origin and insertion as well as the interpretation of its function

2 The various opinions as to the form of the levator ani are explained by differences as regards sex idiosyncrasies of individuals, disturbances from gestation and parturition, variation of the shape of the pelvis and fascial insertions and attachments

3 The different views as to the function of the levator ani lie in confusing its function with the levator ani fascia, superior and inferior, in exaggerating its size and attributing to it function and utility belonging to other genital supports It is especially erroneously inferred that a muscle will act as a continuous tensionized support for any viscus The knowledge of the levator ani muscle is fragmentary and difficult of access Its dissection is far from easy and its adjacent relations are complicated The muscle does not resemble a funnel with the rectum or vagina at the bottom or apex, but is more similar to a sling, a flat loop or a horseshoe, which does not pull the rectum or vagina directly upward, but draws the two canals forward and upward toward the pubic cord

The muscular loop of the levator ani muscle resembles a horse's collar encircling the rectum or the vagina In the female it vigorously controls two canals—rectum and vagina—yet its control of the vagina depends on that of the rectum The rectum being forced forward against the middle of the posterior vaginal wall produces the H-shape to the vagina The excess of vaginal wall is compelled to fold at the sides producing the upright columns of the H It is very thin In an excellent specimen which I dissected from a good sized woman the levator ani muscle is so thin as to be really membranous, and the muscular band between the vagina and rectum is but a few lines in thicknes It is really a pelvic diaphragm The muscle should be considered as to its origin, course and insertion

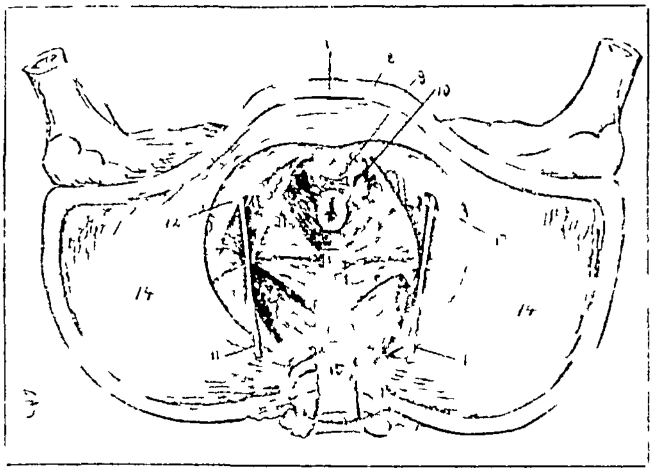


Fig 1 —(Robinson Scholer) This cut is drawn from a female pelvis dissected by the author and intended to show the muscular floor of the pelvis with fascia dissected off 1, 1 the levator ani muscle 2 2 the white line or origin of the levator ani 3 3 the obturator internus muscle 4 4 the coccygeus muscle 5 5 the pyriformis muscle 6 6 the inner wall of pelvis 7 7 sacrum H H the horse shoe loop of the levator ani muscle drawn darker 8 the Y shaped urethra 9 the vagina cut close to the pelvic floor whose wall does not flare like the radial wall 10 11 11 the obturator nerves 12 12 inner wall of pelvis 13 pubic crest 14 14 iliac fossa 15 last (5th) lumbar vertebra

Origin —The levator ani muscle arises from bone from the posterior surface of the pubis and ischial spine or from fascia, arcus tendineus and vesico pubic ligament The bony origin is the posterior surface of the pubic bone and ischial spine The larger portion of the levator ani of bony origin arifrom the posterior surface of the pubis It begins about half an inch from the symphysis and one and one-half to two inches below the pubic crest This point of origin is about two fingers wide or one and one-half inches, and does not meet its fellow of the opposite side, one-half to one inch existing between them on the posterior surface of the pubis, which is filled in by the obturator fascia The bundle of muscles originating on the posterior surface of the pubis passes downward and backward to embrace the vagina and rectum This is the pubic sling or horseshoe loop, which is quite thick and strong in some cases, and very thin and membranous in others The margin of the loop which is applied against the sides of the vagina and rectum, is often the thickest part of the muscle The muscular bundles of the horseshoe loop join those of the opposite side of the levator ani posterior to the vagina and rectum without an intervening perineal tendon or raphe In some dissections it is absolutely plain that no tendinous raphe exists, while in others it can not be told

The smaller portion of the levator ani of bony origin is from the ischial spine immediately anterior to the origin of the coccygeus muscle Quite a distinct strip one-fourth to one half inch wide comes from the ischial spine, and can be plainly followed by the eye to the horseshoe loop

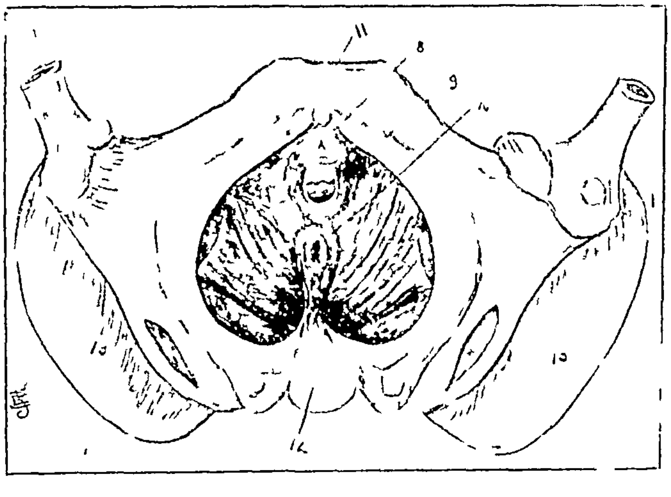


FIG 2 —(Robinson Scholer) This is a cut drawn from a female pelvis dissected by the author It illustrates the inferior surface of the pelvic floor On the left side (in the fig) the levator ani fascia inferior is not dissected off while it is on the right side showing the inferior surface of the levator ani muscle 1 1, shows the levator ani muscle with its parallel bundles 2, *the levator ani fascia inferior*, 3 3 *the obturator internus* muscle, 4, 4 the coccygeus muscle 5, 5 the gluterus maximus 6 ano coccygeal structure, 7 7, the horse shoe loop of the levator ani showing some muscular bundles coursing between rectum and vagina It is not so large on the inferior surface as it is on the superior surface of the pelvic floor 8, urethra 9 *vagina*, 10 *anus flaring* 11 pubic arch 12, sacrum 13, flaring ilium

The ligamentous origin is from the anterior ligament of the bladder (ligamentum pubo-vesicale) and from the arcus tendineus (white line) The fibers of the levator ani which arise from the ligamentum pubo vesicale are of little practical importance The white line extends in a slightly curved direction from the posterior lateral surface of the pubis, over the obturator foramen to the spine of the ischium The anterior end lies two and three fourths inches below the ileo-pectineal line, with a length of about four inches The white line (arcus tendineus) is a part or an extension of the anterior true ligament of the bladder, a thickening of the levator ani fascia superior In the white line, the muscular fibers arise as fine tendinous bands, and may show their reddish muscular nature at the white line or a short distance from it The muscle may shade into a flat tendinous layer before it reaches the white line The proximal tendon of the levator ani muscle varies much as to its relations with the white line It may arise below it as well as from it The white line may project into the pelvis as a tendinous fold, and be capable of being separated from the origin of the muscle

The course of the fibers of the horseshoe loop of the levator ani muscle is backward and downward in two fleshy bundles, the smaller to the side and posterior surface of the vagina, and the larger to the side and posterior wall of the rectum The loops which pass along the sides of the vagina seem to be attached to the vaginal walls by connective tissue only, while the loops of muscular fibers which embrace the rectum interweave with the muscular bundles of the rectal wall, forming a strong connection The part interwoven in the rectal wall acts as an elevator It would appear that in some cases the loops of the levator ani interweave with the muscular fibers in the wall of the vagina The part of the levator ani which passes between the vagina and rectum, is a small, thin band, one-sixth to one eighth of an inch in width, which arises from the external part of the pubic origin and passes over the large belly of the muscle to gain their rectovaginal situation Its relations to the wall of the vagina are very close if not interwoven with its fibers

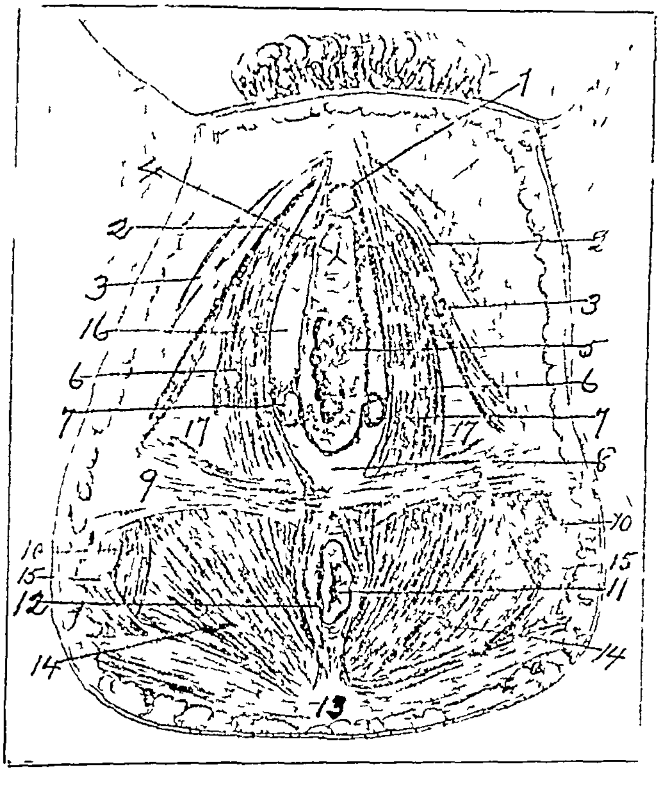


FIG 3 —(Author) This figure I drew semi diagramatically to illustrate the general view of the pelvic outlet 1 clitoris, 2 crura clitoridis 3 erecto clitoridis muscle 4 urethra 5 orifice of vagina 6 bulbo-cavernosus muscle 7, vulvo vaginal glands (of Duverny, of Barthalin of Tiedeman) 8, *posterior vaginal commissure* 9, transversus perinei muscles 10, obturator internus muscle, 11 anus 12 sphincter ani externus 13 coccyx 14 levator ani muscle 15 great sacrosciatic ligament 16 the bulb of the vagina 17, deep layer of superficial perineal fascia

The part of the muscle of fascial origin which arises from the white line, passes backward and downward, becoming part of the levator loop and partly inserted in the tendinous perineal raphe and the last bone of the coccyx Many of these fibers pass downward in a curve and when near the median raphe they turn acutely backward to become inserted into the coccyx A few of the muscular fibers arising from the white line, as well as from the horseshoe-shaped loop together with some from the ischial spine, embrace the rectum The part of the levator ani arising from the ischial spine becomes inserted chiefly in the coccyx Yet one may observe one fourth of an inch in width pass around the rectum with no intervening tendinous raphe

The part of the levator ani muscle of special interest to the gynecologist is the two-fingers wide, horseshoe-shaped sling which arises from the posterior surface of the pubis and passes backward and downward to embrace both rectum and vagina It is the belly of this loop which gives the rectum its forward curve just before the anal end is turned backward It is the sphincter portion of the muscle It is this part of the muscle which becomes hypertrophied in vaginismus It is the portion of the muscle torn and separated in lacerated perineum It is the portion of the muscle which retards labor, creates vaginal spasms and may prevent coition and in rare cases prevents the penis from escaping until relaxed by an anesthetic In most cases the levator ani behind the rectum may be divided into three quite distinct parts viz *a*, the part which is connected to the last bone and fascia of the coccyx The fibers accompanying this portion of the muscle originate chiefly from the posterior end of the white line or at the ischial spine *b* A portion of the muscle forms a median tendinous raphe for about one third of an inch immediately in front of the coccyx *c* The portion of the muscle immediately behind the anus about three fourths of an inch wide has no intervening tendinous raphe (not always distinct) and consists of the belly of the loops which originate and insert on the posterior pubic surface In other words, the muscular fibers of each side anastamose forming the horseshoe shaped loop with no intervening tendinous raphe Some of the loops intertwine with those of the sphincter ani which pass back to the tip of the coccyx also some of the muscular fibers of the sphincter ani externus are continuous with the loops of the levator ani The fibers of the levator ani originating from the white line pass backward and downward but on arriving at the median raphe many of the fibers turn sharply backward to be inserted into the coccyx, and soon become tendinous The levator ani fascia superior is not very intimately attached to the muscle, and may be compared to the fascia transversalis The levator ani fascia inferor is adherent to the muscle

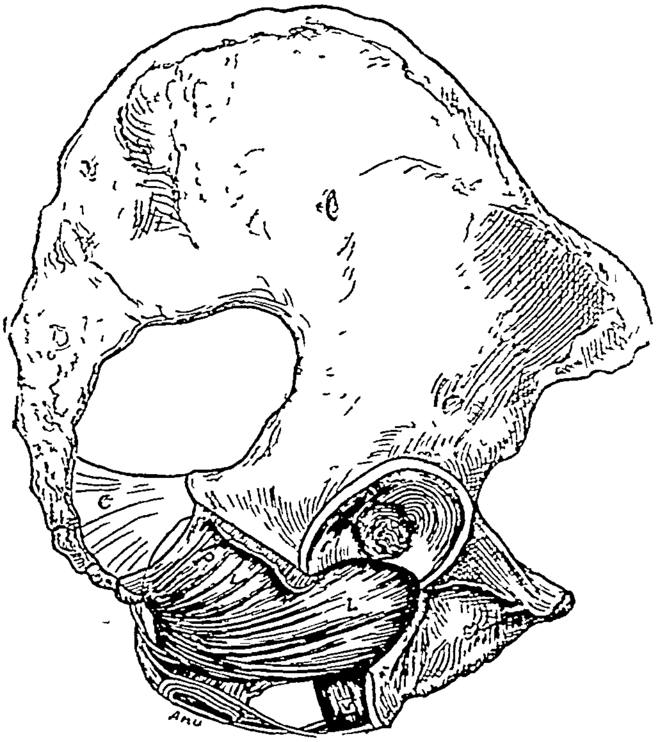


Fig 4 —(Luschka 1864) Redrawn and modified represents a view of the levator ani muscle L L the modification of Luschka's figure consists in magnifying the rectal curve made by the levator ani muscle C a continuation of the levator ani muscle backward drawn lightly V vagina? The grip on the rectum by the horse-shoe sling of the levator is here plain p The levator ani fascia inferior p is shown rolled up

Deductions in regard to the levator ani muscle may be numerous Certain practical considerations may be drawn from a careful study by dissection and in gynecologic practice As it was originally a muscle of the tail it is becoming vestigeal in man, shown by its fascial connections From the origin, course and insertion of the levator ani muscle, it must be viewed as the all-important muscle of the pelvic floor

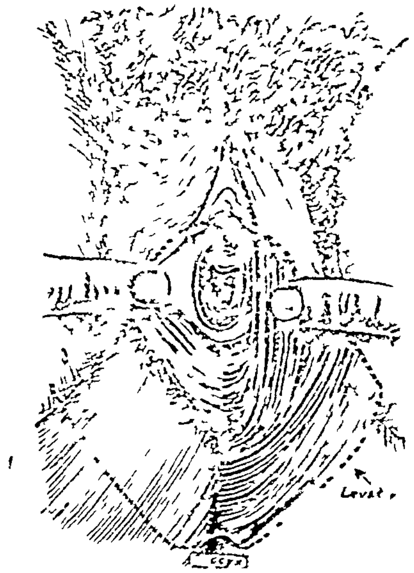


Fig 5 —(Dickinson 1889) The levator ani as seen through the skin the outlet of the pelvis is dotted and the direction and course of the chief muscular bundles of the levator ani marked out

The levator ani fascia superior is the real visceral support I think it was Dr Meyers a German physician, who first happily named it the pelvic diaphragm In many subjects it is membranous The normal muscle has the shape of a boat, and when this boat shape becomes cone-shaped the pelvic floor is impaired The levator ani is composed of many muscular bundles coursing chiefly parallel to each other but also at varying distances The bundles are flat ribbon-like, and of a bright red color The bundles of muscular fibers are held at greater or less distance from one another by collections of fat or connective tissue in varying degrees Fenestra or apertures are commonly observed between the muscular loops The capacity of the bundles of the levator ani muscle to separate and reunite without injury serves a useful purpose in labor when rapid and wide distension of the pelvic floor may occur Too many figures illustrate the muscle as a distinct plane with no parallel gaps between the bundles

The levator ani (the deep muscular layer of the pelvis) is connected to the external sphincter ani of the rectum and vagina (the superficial muscular layer of the pelvis) and by this muscular connection to the perineal body (the punctum fixum), the deep and superficial muscular layers of the pelvis are brought into intimate relations of much utility A few fibers are lost in the perineal body The levator ani is in closer organic relation with the rectum than the vagina, because the rectum requires more frequent and perfect evacuations than the vagina It is chiefly a sphincter muscle The weakness of its origin, insertion and direction of its fibers is in accordance with its fading out of existence

The forward curve of the rectum is due to the horseshoe shaped loop of the levator ani, which originates chiefly from the posterior surface of the pubis By the contraction of the lower, stronger fibers of the levator, the lower portion of the rectum is forced against the perineal body, which compels the anus to turn backward and to evacuate its contents

The levator ani, on account of its shape and size leaves deficiencies in the pelvic floor, which are filled in front by the bulbo cavernosus and behind by the coccygeus muscles, its continuation backward

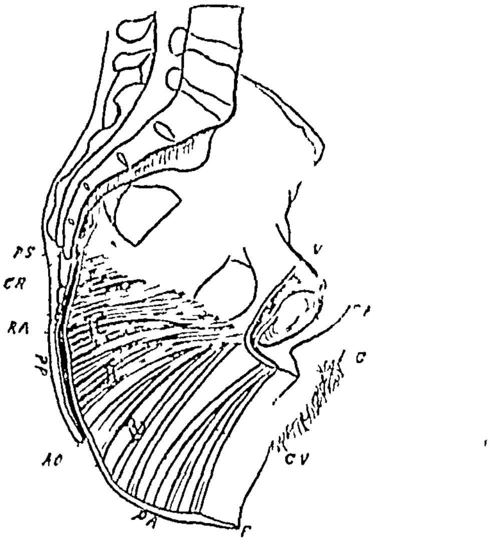


Fig 6—(Varnier, after Dickinson) The distended levator ani V bladder, S P, symphysis c, clitoris C, V constrictor of the vulva F, fourchette P, A, anterior perineum, A O anus P, P posterior perineum, C, R, coccyx P S point of sacrum, R, R R, is on the muscle with its separated bundles the middle R is on the strongest bundle In this figure we observe how the muscle can save itself from rupture by the separation of its various fasciculi It yields better than if it were in one connected sheath

The palpable rounded edge of the levator ani lies three-quarters of an inch above the anus and three-quarters of an inch above the vaginal opening, making the muscle, in fact, a regulator of the external openings of these two canals Normally the orifices of the canals are always closed They remain open only by internal or external force or from trauma

The levator ani will lift from five to twenty pounds, averaging about ten as noted by Dickinson Its strength soon tires out assistants in vaginal hysterectomy From its insertion into the perineal body the external sphincter, post-rectal raphe and coccyx, it draws forward the post-vaginal structures of the pelvic floor In the excellent work of Savage, he names the portion, from the principal bony origin, pubo coccygeus This is erroneous, as these loops do not pass as far back as the coccyx—do not even come in contact with it The levator lifts the rectum and vagina forward and upward to the pubic arch The muscle has but limited influence on the sides of the rectum The muscular fibers composing the horseshoe loop exercise the chief influence over the rectum, while the portion of the muscle arising from the white line (fascia) serves its purpose by holding the pelvic diaphragm in relation prepared for any immediate action, with its superior and inferior fascia it makes a tense floor for the superimposed viscera

The levator ani fascia superior and inferior lends the muscle its greatest utility by increasing its strength and also producing harmonious action in its function The horseshoe sling is inseparably blended with the sphincter ani externus The levator ani produces the H-shaped condition of the vagina and its puckered or constricted appearance at the orifice The muscle becomes hypertrophied during pregnancy and vaginismus It resists the head in labor to a surprising degree It may be easily observed in slow labor, when, if small forceps sufficient to overcome the tension of the muscle be applied, labor proceeds rapidly

The comparison of the diaphragm and levator ani, as to the capacity for strength, is in favor of the levator ani Its strength varies much in different subjects

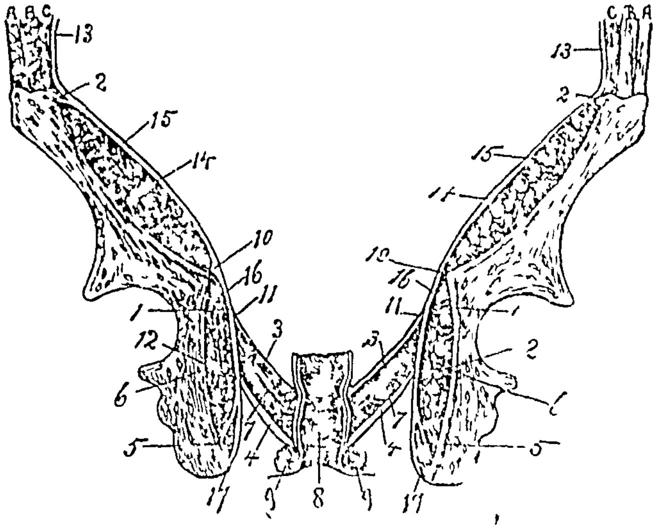


Fig 7—(Robinson Scholer) A diagram to illustrate the pelvic fascia, with a new nomenclature of same 1, 1, white line 2 2, origin of transversalis and iliac fascia at the iliac crest 3 3 levator ani fascia superior 4 4, levator ani fascia inferior 5 5, Alcock's canal 6, 6 obturator internus muscle 7, 7, levator ani muscle, 8, vagina or rectum 9 external sphincter 10 10, ileopectineal line 11, 11, origin of levator ani fascia superior 12, 12 beginning of obturator fascia inferior 13 13, transversalis fascia, 14 14, iliac muscle 15, 15, iliac fascia 16 16, obturator fascia superior, 17, 17, ending of obturator fascia inferior on the ischial tuberosity

The best descriptions of the levator ani muscle are given by Henle, Luschka, Testut and Lesshaft Hart and Dickinson have made excellent studies on this muscle Browning wrote an interesting article on the subject The levator ani may be a rudimentary muscle, disappearing with the tail and in the evolutionary process of an erect attitude This view may arise from the weakness of its origin, the direction of its fibers and insertion, as well as the requirement of the double fasciæ It is unphysiologic for a muscle to produce constant support, hence the levator ani can not be considered a support for the viscera, it is rather a sphincter muscle

The levator ani muscle is analogous to the buccinator muscle Perhaps from an evolutionary standpoint we may look on the levator ani as having three functions, viz *a*, of a sphincter, *b*, of an elevator, and *c*, of a tensor of the levator ani fascia, superior and inferior

As proof that the levator ani is a sphincter, one need only introduce the finger into the vagina and request the subject to contract the muscle Cruveilhier, Henle, Lesshaft and Budge insist that the levator ani is a sphincter of the anus and lower rectum chiefly, and not an elevator That this muscle is an elevator one need only dissect it to find the muscle ending definitely in the walls of the rectum, and such terminating fibers, when in action, could only elevate the rectum The horse in defecation illustrates that the levator ani is an elevator, as the rectal wall is elevated, the rectal mucosa everted and completely evacuated As an elevator, it resists intra-abdominal pressure

The levator ani appears as well developed in the male as the female, and hence labor does not appear to develop it The levator ani muscle is greater in those animals with a tail, and originally its chief function was to aid in managing the tail, from which it would appear that as a tensor of the levator ani fascia superior and inferior, these fibers take an active part They originate at a definite fixed point, lose themselves between the fascial blades and do not reach rectal or vaginal walls When a muscular fiber neither goes to the rectum nor ends in its wall, it will not act as a sphincter, nor as an elevator

Lesshaft and Roux divide the levator ani into two layers, viz , *a*, the inner layer, which is an elevator and *b*, the outer layer which is a sphincter

THE INTERNAL PELVIC FASCIA

The internal fascia of the lesser pelvis has a poor literature, and is not often described As the pelvic fascia has much to do with the permanent results of the flap or any perineal operation, I will write of it somewhat in detail

The fascia of the greater pelvis, or that fascia lying superior to the ileopectineal line, is not here considered The fasciæ, the planes of strong, fibrous tissue here under consideration, lie below the ileopectineal line

As a teacher of anatomy, I have always maintained that a fascia should be named according to the muscle or other structure with which it is in the most intimate relation I shall therefore apply this simple nomenclature to the fascia in the pelvis

The fascia covering the obturator internus muscle will be termed the obturator fascia As this fascia is divided by the white line extending from the posterior surface of the pubis to the ischial spine, we will call that portion of the fascia above the white line, the obturator fascia superior, and that portion of the fascia below the white line, the obturator fascia inferior The fascia above the levator ani, originally named by Tyrrell the rectovesicale, and by Carcassone the pelvic aponeurosis, by others the vesical layer of the pelvic fascia, we will name the levator ani fascia superior, and that part of the fascia below the levator ani, the levator ani fascia inferior The fascia covering the coccygeal and pyriformis muscles will be named after those muscles The fascia covering the sacrum very naturally takes the name of the sacral fascia The internal fascia of the lesser pelvis extends from the iliopectineal line on either side to the median raphe of the pelvic floor It not only lines the pelvic walls and floor, but enters into intimate relations with the pelvic viscera It is a strong, shiny fibrous membrane, possessing a very varying quantity and quality In a certain sense the fascia of the lesser pelvis should be treated as an independent structure, and not as a continuation of the iliac transversalis or other fasciæ The ileopectineal line marks an absolute division between the iliac and obturator fascia

The simplest plan is to describe the obturator fascia superior and inferior and to consider the obturator fascia as distinctly belonging to the obturator (internus) muscle, subsequently to consider the fascia of the levator ani superior and inferior, with a lesser consideration of the coccygeus pyriformis and sacral fasciæ The fasciæ lining the lesser pelvis are intimately connected with their respective associated muscles and structures by strong connective tissue The connection of the fasciæ with the peritoneum is not intimate a thick, loose layer of connective tissue richly laden with fat lobules, lies between the peritoneum and the fasciæ lining the lesser pelvis This loose connection of pelvic peritoneum and pelvic fasciæ allows the easy and rapid spread of pelvic abscesses between the pelvic fasciæ and the peritoneum in the subperitoneal tissue

The obturator internus fascia surrounds the obturator muscle at its origin, from the lateral pelvic surface of the innominate bone, and is the special fascia of the obturator internus muscle It is attached for a considerable distance to the iliac portions of the brim At this point the obturator becomes attached to the upper border of the obturator membrane In front the attached line of the fascia passes below the ileopectineal line to allow the obturator vessels and the nerve to enter the obturator foramen or canal This portion is fixed to the periosteum and appears as an independent organ In front it is attached to the body of the pubis and along the upper margin of the obturator foramen by an oblique line, to a point about one half an inch below the symphysis Where the fascia dips under to allow the passage of the obturator vessels and nerves it is firmly attached to the periosteum and nerves by strong tendinous fibers Posteriorly, it is attached to the anterior surface of the great sacrosciatic ligament and the anterior margin of the great sacrosciatic notch Inferiorly, the fascia is attached to the margin of the obturator foramen of the descending ramus of the pubis, and it joins the falciform process of the great sacrosciatic ligament, which firmly connects it to the inner border of the ischium and its ascending ramus

With a firm insertion in the ileopectineal line, the

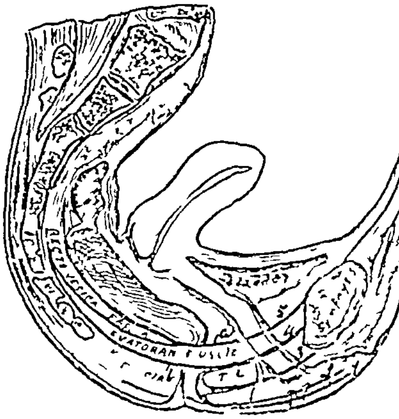


Fig 8—(Ranney) Diagram of the fascia of the pelvic floor in a mesial section It illustrates the levator ani fascia superior and inferior above and below the levator ani muscle T L triangular ligament I F two layers of superficial perineal fascia Observe that in the anterior triangular perineal space there are five layers of fascia, viz 1 superficial layer of perineal fascia 2 deep layer of superficial perineal fascia 3 triangular ligament outer layer 4 triangular ligament inner layer levator ani fascia superior In the posterior perineal space there are two layers of fascia—the levator ani fascia superior and the levator ani fascia inferior

anterior border of the great sacrosciatic foramen, the anterior and inferior margin of the obturator foramen and to the edge of the falciform process of the great sacrosciatic ligament, the obturator fascia becomes a fixed, strong, thick, fibrous membrane in relation superiorly with the obturator nerve and vessels and inferiorly with the *internal pudic* vessels and nerves —Alcock's canal It has intimate attachments to the obturator internus muscle above, but is quite loose below

The obturator fascia we divide into two portions, superior and inferior The obturator fascia superior is that portion above the white line or arcus tendineus It looks into the pelvic cavity from the lateral aspect and is covered by peritoneum The peritoneum and obturator fascia superior are separated by considerable loose, fatless, snow-white connective tissue, composed of many shiny, thin, cleavable planes, which become easily dissected by progress of the pelvic abscesses

The structures of importance which pass over the internal face of the obturator fascia superior just below the iliopectineal line are the obturator vessels and nerves These structures are liable to be injured by the head soon after its engagement by the brim or fixed bony ring of the pelvis The obturator fascia superior has a surface of about ten square inches

The obturator fascia inferior is that portion below the arcus tendineus or white line It looks internally into the ischiorectal fossa and externally toward the r internus muscle It forms the external of the ischiorectal fossa At the lower part chiorectal fossa about an inch above the osity of the ischium the obturator fascia planes me separated, producing a sheath — Alcock's al — for the transmission of the pubic vessels and nerves The obturator fascia inferior, has a surface of some five square inches one-half the size of the obturator fascia superior

At the lesser sciatic notch, the obturator fascia passes out of the pelvis with the muscles and gains the postero-femoral regions of the thigh The obturator fascia is inserted into the ramus of the ischium and pubis, where it passes on and blends with the triangular ligament of the urethra, hence the triangular ligament is a continuation of the obturator fascia from each side

The arcus tendineus or white line appears as an aggregation of tendinous fibers of the obturator fascia It extends from the posterior surface of the pubis to the spine of the ischium It possesses a gentle curve with its concavity upward The white line gives origin to that part of the levator ani muscle, which arises between the lower posterior surface of the pubis and ischial spine The white line arises out of the ligaments of the bladder, a thickened portion of the obturator fascia is the line of origin of two planes of fasciæ The upper plane I call the levator ani fascia superior, and the lower plane the levator ani fascia inferior The white line varies in thickness in individuals—generally is one-sixth of an inch in thickness in the middle, but its greatest strength and width is at the anterior end, where it assumes intimate relations with the pubovesical ligaments In women the white line is about four inches long Its origin at the pubis may be chiefly from the anterior and lateral (true) ligaments of the bladder The white line allows considerable elasticity It is quite firmly fixed at the anterior end, and definitely at the posterior end, but, like a long, tight rope, allows considerable range of motion and sagging in the middle

The levator ani fascia superior (rectovesical fascia of Tyrell, rectovesical aponeurosis of Carassone or visceral layer of the pelvic fascia) arises from the white line and passing inward forms the floor of the pelvis The levator ani fascia superior, as its name implies, covers the superior surface of the levator ani muscle The fascia finally loses itself in the median raphe behind the rectum in the rectal, vaginal and vesical walls, and in the anterior and lateral ligaments of the bladder From this relation, the levator ani fascia superior becomes of significant interest in perineorrhaphy Anteriorly it is remarkably strong and short, being attached to the back of the pubis above the obturator fascia from which it is separated by the origin of the levator ani muscle, the levator ani fascia superior, the levator ani muscle and the obturator fascia being all three closely adherent to the pubis bone and to each other

If one carefully removes the peritoneum and loose subperitoneal tissue the levator ani fascia superior may be plainly seen stretching from the white line to the bladder, vagina and rectum It may be stripped off the levator ani muscle in several thin, cleavable planes It is reflected on the bladder forming the anterior true and lateral true ligament of the bladder, however the lateral ligaments of the bladder may be assisted by ligaments from the vagina The levator ani fascia superior begins its anterior attachments at the lower border of the symphysis, continues then along the white line laterally to the ischial spine, continues from the ischial spine on the superior surface of the levator ani muscle to the median raphe The levator ani fascia superior covers an area of about six square inches on each side of the median line of the pelvis

The levator ani fascia superior may be divided into the anterior or vesical portion, the vaginal portion and the rectal portion

The vesical portion of the levator ani fascia superior is reflected from the pubis to the neck of the bladder, forming the anterior true ligaments of the bladder and part of the lateral ligaments The vesical portion is very thick and strong, even tendinous It is reflected from the pubis in an arched manner The vaginal portion of the levator ani fascia superior is analogous to that which surrounds the prostate in the male In the male the prostate gland and vesiculæ seminales are surrounded by a strong capsule derived from levator ani fascia superior This portion of fascia surrounds the vagina in the female, including *the large venous plexuses*

(To be continued)

THE INVASION OF PORTO RICO FROM A MEDICAL STANDPOINT

BY N SENN, LIEUT COL U S V

CHIEF OF THE OPERATING STAFF WITH THE ARMY IN THE FIELD

The occupation of Cuba and the Philippine Islands by our conquering navy and army in such rapid succession seemed to increase the desire of conquest and opportunities to test the strength of our arms With the destruction of the weak navy of our enemy there was nothing in the way of sending troops to any of the many Spanish possessions The fall of the heroic Cervera and his faithful little band, off the harbor of Santiago, before the murderous fire of our well equipped fleet cleared the pathways of the ocean of further sources of danger It was but natural that the beautiful island of Porto Rico one of Spain's most valuable possessions should have been selected by the military authorities as the next objective point for contention Repeated attacks by our navy on its best stronghold, San Juan, had failed to bring about surrender and to gain a foothold on Porto Rican soil So far the navy had taken the lead in bringing Spain to terms and the army was anxious to do its share in wresting from its greedy grasp another enslaved people Major General Miles, who conducted the invasion in person, decided to march upon San Juan from several directions, and, after uniting the forces, attack the city jointly The experience gained in Cuba had taught us an important lesson in conducting the Porto Rican campaign General Miles laid his plans wisely and with special reference to gain the desired object with as little suffering and loss of life as possible Every movement in this campaign was made with a due regard for the welfare and success of our troops rather than a desire for personal gain and aggrandizement, which characterized the Cuban campaign as every one knows He was well aware of the depressing effects of the tropical climate on the unseasoned troops and of the necessity of resorting to timely and efficient precautions in preventing disease From experience and personal observations, he recognized the fact that the unavoidable privations incident to warfare are multiplied many times when the seat of war is a strange and remote country presenting a climate and environments unaccustomed to by the invading force His actions were clean cut admissions that he was in need of a medical adviser and that they were influenced by the frequent consultations held with his chief surgeon The war in Porto Rico was conducted upon the most humane principles, and although no great battles were fought, victory upon victory followed the footsteps of our army and in less than three weeks our flag floated over three of the largest cities of the island Our troops love and respect their leader and have followed him without fear and grumbling under the scorching sun, full of confidence and trust The news that peace had been declared reached the headquarters at Ponce, August 14, and the troops are now resting on their arms awaiting the final adjustment of the terms of peace Eager to fight, yet every soldier in the field received this message of peace with joy and enthusiasm, fully satisfied that the army had done justice to the flag and country it represents Col Charles R Greenleaf, chief surgeon of the army in the field accompanied General Miles on his trip from Guantanamo to Porto Rico, and has been with the army ever since He was long enough in Cuba to gain a full insight into the horrors created by infectious diseases, which so constantly follow large armies, especially in a war of invasion He was amazed when he saw to what extent yellow fever had broken out in the few weeks the troops had been in Cuba There was no difficulty in tracing the disease to a total lack of precaution on the part of the general in command Col Greenleaf had given his directions and advice before the army left Tampa, but they were not heeded Owing to want of co operation on part of General Shafter, the medical officers found themselves powerless in preventing and combating the dreaded disease Col Greenleaf's prompt and energetic action on his arrival in Cuba did much in repressing this disease but it was too late too guard against a general outbreak The many recent graves in Cuba containing the remains of the victims of this disease are the best proof of what will happen when the leader of an army ignores the health and comfort of his men In planning the Porto Rican invasion, General Miles availed himself of the invaluable services of his chief surgeon The expedition was well supplied with medicines, hospital stores and medical officers to meet all possible emergencies The result has been that the army has been so far singularly exempt from disease with the exception of typhoid fever and the effects of heat, both beyond the control of the medical officers Since his arrival in Ponce, Col Greenleaf has been the busiest man in the army He has not been content in simply issuing his orders from headquarters but he has attended in person to the execution of every detail He has visited the camps and the hospitals and exercised personal oversight over the distribution of hospital supplies instruments and medicines Anxious to serve the sick and wounded impatient when face to face with a slow, hesitating subordinate, he has more than once performed temporarily the duties of an ordinary hospital steward to furnish a much needed object-lesson His work will justify the confidence reposed in him when he was appointed to the high and responsible position he holds during this war

General Nelson A Miles in command of the Army in Porto Rico By courtesy of McClure's Magazine Copyrighted 1898 by S S McClure Co

FIRST SKIRMISH

General Miles landed with his expedition which included a number of vessels at Guanica Monday

July 25 The harbor was entered by the now famous little gunboat *Gloucester*, under the command of Lieut-Commander Wainwright A landing was effected by thirty sailors, the Spanish flag was hauled down, and the stars and stripes raised amid the cheers of the sailors, who knew well that what they had just witnessed meant liberty and freedom for the downtrodden people of the island of which they had just taken possession

The planting of the flag and the deafening cheers which reechoed from the hills of the liberated island were followed by a volley from the hidden enemy, which was promptly responded to by the guns of the *Gloucester* and a Colt rapid fire gun, which had been taken ashore The Spaniards fled in confusion and sought shelter among the adjacent hills leaving four killed on the field, while our soldiers escaped without a scratch The turn of the infantry came soon after landing, in the form of a lively skirmish, in which we lost one killed and fifteen wounded, of whom one died a day or two later Most of the injuries were flesh wounds, which healed in a remarkably short time A very interesting incident occurred during this skirmish The day was hot, and our troops had to ascend a steep hill, from the crest of which the Spaniards defended themselves One of the volunteer soldiers, outrunning his comrades advanced far ahead of his line and when he nearly had reached the Spanish position was overcome by heat He fell in a semi-conscious state A Spanish doctor rushed to his aid with a stretcher and two hospital corps men, administered necessary restoratives and had him conveyed at within our line This one act alone goes to show the Spaniards have often been unjustly accused eing cruel and inhuman This certainly has not een the case during the present war From my own observations I am sure that they have respected the Red Cross In fact, the Red Cross people of Porto Rico, composed largely of Spaniards, have shown the greatest activity and interest in their humane work during the entire campaign If anything, they have rather been overzealous, judging from the number of insignia displayed and worn It was a common thing to see men wear a white cap with an immense red cross on top, another one in front, besides the brassard

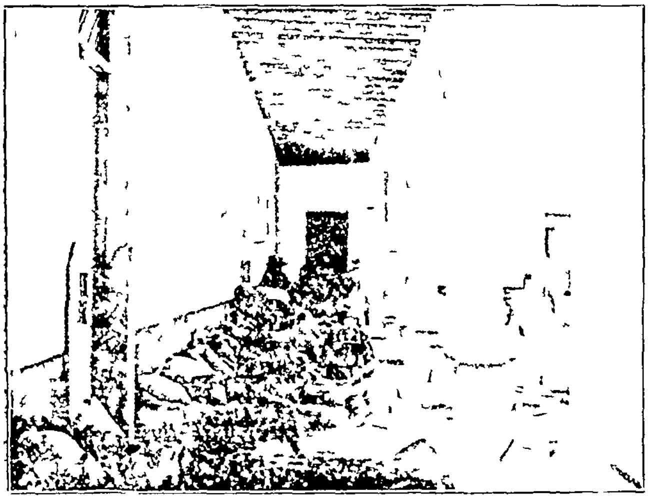
Ponce was taken and occupied without any resistance whatever The citizens received our soldiers with enthusiasm and manifestations of joy General Miles was hailed as a long-looked-for friend rather than a conqueror The next engagement occurred between Arroya and Guayama, between a small Spanish force in ambush and General Haines' brigade, and resulted in eleven wounded on our side The only death following this skirmish was a soldier of the Third Illinois Infantry who was shot accidentally by an unknown man of the Fourth Pennsylvania regiment The bullet caused an extensive non-penetrating injury of the chest, from the effects of which he died the next day Such accidents have occurred too often during the present war, and to prevent repetition in the future this matter should be investigated, as was done in this instance, by the proper authorities Among the injured was a man who was shot through the pelvis and another one the subject of a gunshot wound of the elbow joint, both of them doing well four days later when I examined the wounded in the brigade hospital at Guayama The third skirmish took place between the advance column of General Wilson's division, on the march to San Juan, and a small Spanish force intrenched on the summit of a high and steep hill Lieut Haines, the son of General Haines, was the only one who was brought on board the *Relief* August 4 One of the wounded was operated on by Dr Parkhill in an ambulance The abdomen was torn open by a fragment of a shell, the intestines protruded and a resection had to be made of a loop for a tearing injury It was reported that the patient rallied well from the immediate effects of the operation and that hopes were entertained of his recovery Another engagement took place between the troops under command of General Schwan, on their way from Ponce to Mayaguez, and about 1000 Spaniards ambushed four miles from the latter city This fight resulted in two killed and eighteen wounded on our side All of the wounded were brought on board the hospital ship *Relief*, which called at Mayaguez on her way to New York, August 15 Such is a brief account of the casualties sustained by our army during the Porto Rican campaign The experience here coincided with that gained in Cuba, to the effect of confirming the humane nature of the modern weapon The proportion of killed to wounded is even smaller than in the Cuban war, as well as the number of seriously injured Thanks to more elaborate preparations for the campaign, the wounded received prompt and efficient attention The suffer-

Col Charles R Greenleaf, Chief Surgeon of the Army in the Field ing of the well, sick, and wounded can not be compared with what I saw in Cuba War is a great educator, and should we again be called upon to invade a foreign country, we shall profit by the experience of the past

TYPHOID FEVER IN PORTO RICO

The native doctors in Ponce, Porto Rico, gave us the assurance that not a single case of yellow fever had been seen in that city for the last three years We were informed that in San Juan isolated cases occur from time to time Malaria is present in all of the valleys, more especially in and around Ponce The large, pendulous abdomen and the pale faces of the many little naked children in city and country, are the best witnesses in showing the prevalence of malarial intoxication

Typhoid fever is endemic in certain localities, but at present Ponce is almost free from this disease Having seen the destruction of life and the indescribable suffering caused by yellow fever in Cuba, Col Greenleaf naturally turned his attention toward protecting our troops in Porto Rico against this scourge The proximity of Porto Rico to Cuba, the many possible sources of infection, made such a course imperative That this fear was not unfounded, and that the Chief Surgeon recognized the danger and made use of timely precautions are but shown by the contents of a letter addressed to the Adjutant-General, Headquarters of the Army, and Circular No 1 issued before the army sailed from Guantanamo to Porto Rico, and a copy of the Quarantine Regulations formulated at the same time



Fever patients in the court of the Spanish military hospital

HEADQUARTERS OF THE ARMY,
ON BOARD U S S "YALE," EN ROUTE TO PORTO RICO,
July 23 1898

To the Adjutant General Headquarters of the Army

SIR —I have the honor to submit the following recommendations for preventing as far as possible the introduction of yellow fever into the command now about to land on the island of Porto Rico

The assignment of an officer of rank to be placed in command of the base of supplies with authority to indicate the sites to be occupied by the various supply depots and the hospital, and to enforce the regulations governing the health of the attachés of these departments and the persons who may visit them on business

The assignment of a sanitary inspector whose duty it shall be to examine all vessels and persons arriving at our base from seaward ports and to prepare sanitary regulations for the Government of all transportation and persons arriving and departing from the station by land This officer should have authority to quarantine all suspicious persons and means of transportation, and to disinfect their belongings, either by fire or such other means as may be deemed necessary

All persons connected with the Army are forbidden to enter any building whatever on the island without express authority from these headquarters, and all buildings in rural districts that may be suspected of harboring the germs of disease should be destroyed by fire or otherwise thoroughly disinfected

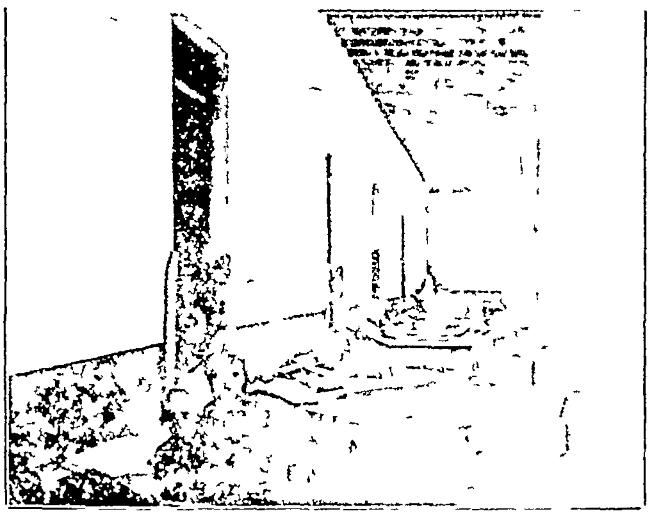
As woven goods, particularly those of woolen fabric are special carriers of disease, the purchase or acceptance of articles of this kind from stores or inhabitants of the island is strictly forbidden Any such property found within the lines will be at once destroyed and the holder subjected to punishment

That commanders of regiments be instructed to prepare their camping grounds with great care and maintain a rigid police in them, under no circumstances shall they camp on ground that has previously been occupied either by troops or by collective bodies of the inhabitants

That medical officers be required to make frequent inspections of the commands to which they belong, and that any suspicious case of fever be immediately isolated and the fact of its occurrence reported to these headquarters

Canteens should be filled daily with tea or coffee, and these beverages used habitually instead of water, unless that has been previously boiled Very Respectfully,

CHAS R GREENLEAF, Colonel,
Asst Surg Genl U S A , Chief Surg Army in the Field



Fever patients in the court of the Spanish military hospital

HEADQUARTERS OF THE ARMY,
OFFICE OF THE CHIEF SURGEON, ON BOARD U S S "YALE,"
EN ROUTE TO PORTO RICO
July 21, 1898

Circular No 1

1 Medical officers will, upon receipt of this circular, report to the Chief Surgeon of the Army the number of medical officers, hospital stewards, acting hospital stewards and privates of the Hospital Corps on duty with their command Also the number of ambulances, litters and tents, and if medical supplies are insufficient, note the general character needed This report will be made upon the following form

Command	Med Offs	Hosp Stwd	Acts H S	Privates	Litters	Ambulance	Hosp Tent	Character of Medical Supplies Needed

2 A field hospital will be organized at the Army base as soon as possible after landing, and a depot of supplies will be connected with it As we are widely separated from the source of our supplies a strict economy in their use is necessary Surgeons of Divisions and Brigades will give their personal attention to this important subject.

3 Extreme vigilance is enjoined upon Medical Officers in the matter of camp sanitation errors in this particular being promptly reported to the respective commanding officer

4 The experience at Santiago has demonstrated the efficiency of properly applied first dressings to [illegible] these should be left untouched until the patient arrives at the base hospital unless the condition of the wound absolutely demands a redressing en route from the first dressing station All diagnosis tags will be carried [illegible]

or "Redressing required," as the condition demands Unless an imperative necessity exists, surgical operations will not be attempted at the front

Chas R Greenleaf, Colonel,
Asst Surg Gen U S A , Chief Surg Army in the Field

QUARANTINE REGULATIONS FOR THE BASE OF THE MILITARY EXPEDITION TO PORTO RICO

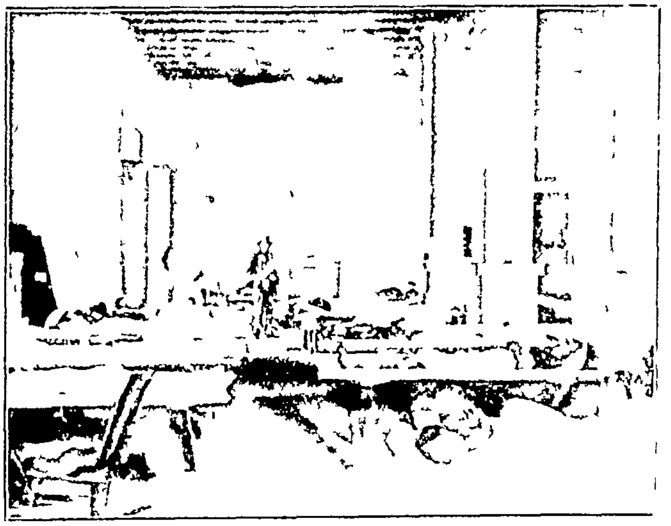
1 Every vessel shall be officially visited by the inspector before communication is made with other vessels or with the shore

2 A vessel having yellow fever or smallpox on board shall not be allowed to communicate with the shore, or with other vessels, but shall leave the island

3 Vessels coming from sources of infection shall be detained five days without communicating either with the shore or with other vessels If at the expiration of this time no cases of fever shall have developed, landing may be made under the following precautions

All fomites shall be disinfected by one of the following methods Immersion for one hour in 1 1000 solution bichlorid, sulphur fumigation in a chamber twenty four hours, four pounds of sulphur being used for each 1000 cubic feet of space, or boiling half an hour with complete immersion The following need not be disinfected unless directly exposed to infection

All new and dry material unpacked, all iron and steel implements, all goods in new and original packages, not having been broken or packed in an infected locality Goods other than textile contained in textile material, such as coffee in sacks, bacon, spices, etc, kept dry and not broken in an infected locality do not require disinfection other than the container, which shall be treated as fomites as above Fruits, sound, unless exposed in an infected locality need no disinfection Live stock may be admitted



Ward in the Spanish military hospital

Such ships shall be thoroughly cleaned and disinfected by the free use of 1 1000 solution of bichlorid, and by fumigation with sulphur before they may again receive men or supplies

Ships quarantined shall display the usual flag, and those in detention shall be visited by the inspector daily until the time of quarantine shall have expired

4 Vessels carrying passengers or having fomites from localities of infection, though they (the vessels) may hail from healthy ports, shall be subject to the same quarantine restrictions as vessels known to hail from infected localities

5 Due precaution shall be taken to prevent infection of the base of supplies through communication with infected localities along the line of march by teamsters and others As far as possible they should not be allowed to remain at the base longer than necessary to load and unload, nor to come in such contact as to communicate infection Stragglers, prisoners and strangers should be immediately sent away

Chas R Greenleaf, Colonel,
Asst Surg Gen U S A , Chief Surg Army in the Field

Major Woodbury was appointed Sanitary Inspector He met with the hearty co-operation of the city authorities of Ponce in the performance of his onerous and often unpleasant duties The sanitary conditions of the city underwent a great improvement in a few days The water-supply was found satisfactory The absence of a sewerage system threw many obstacles in the way The appearance of smallpox in a village some distance from Ponce made vaccination among the soldiers who were not protected against this disease and the natives necessary An abundant supply of vaccine virus was on hand and was at once issued and used When I arrived at Ponce, August 7, I found typhoid fever raging to an alarming extent. It was desirable to trace the origin of the disease The absence of typhoid fever this season of the year, its outbreak in all the commands, and the short time that had intervened between leaving the United States and the landing in Porto Rico made it probable that the disease could be traced to the infected camps occupied by the troops before leaving for Porto Rico General Miles was very anxious to obtain reliable information regarding the origin and spread of the disease Pursuant to the following order I made an exhaustive and systematic investigation

Headquarters of the Army, Office of the Chief Surgeon.
Port Ponce, Porto Rico, Aug 10, 1898

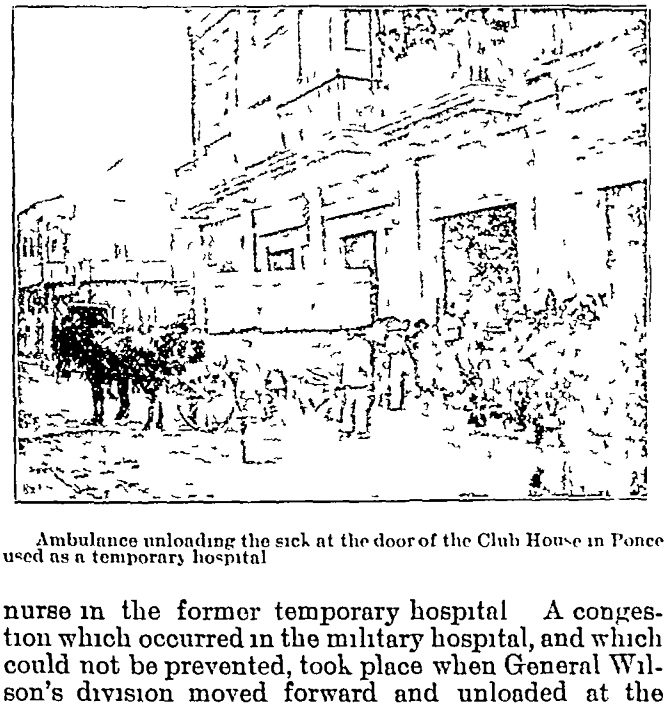
Lieut. Col Nicholas Senn, Surgeon U S V , Chief of Operating Staff of the Army

Sir —You will proceed to the town of Ponce, visit the military and other hospitals in that town, and such of the camps in its vicinity as you may deem necessary, for the purpose of investigating and, if possible, determining the cause of typhoid and other fevers now prevailing in this army, and report the results of your investigation in writing to me Should you find it necessary to have the services of an interpreter, or other civilian, to aid in your work, you are hereby authorized to employ him, sending the bill to this office for payment

Very respectfully,
Chas R Greenleaf, Colonel,
Asst Surg Gen U S A , Chief Surg Army in the Field

Ambulance train transporting the sick from the Division Hospital to the Spanish military hospital

I obtained accurate information of two hundred fever patients, of which number more than 90 per cent were well-marked typhoid fever, the balance malaria and the results of sunstroke I estimated the whole number of fever patients in, and in the immediate vicinity of, Ponce at 250 In extending my inquiries to General Brooke's command, with headquarters at Guayama, I found about 145 additional cases, however, in that locality malaria seemed to predominate Most of the cases came from Chickamauga by way of Charleston and Newport News The Second and Third Wisconsin Regiments furnished the largest contingent Almost every soldier in the different hospitals belonging to either of these regiments suffered from typical typhoid fever, and what attracted my attention was that the disease appeared to be of a more serious type than in most of the men belonging to other regiments The locality from which these regiments came, when encamped at Chickamauga, must have been badly infected As the result of my investigations, I reported to Col Greenleaf the number of cases found, and that in my opinion the disease was contracted in every instance before leaving the camps in the United States In view of the fact that most of the cases came from Chickamauga, I suggested at the same time that the Medical Department should recommend immediate evacuation of that camp In Ponce most of the cases found shelter and care in the Spanish military hospital, then in charge of Major Ten Eyck, U S A The club house and a school for girls, of the Sisters of Charity, were also placed at the disposal of the chief surgeon and were soon filled with patients Miss Chancellor of New York did excellent service as a nurse in the former temporary hospital A congestion which occurred in the military hospital, and which could not be prevented, took place when General Wilson's division moved forward and unloaded at the door all of the sick in the Division hospital, some 150 in number The overcrowded condition was remedied the next day, when a large number of the more grave cases were sent on board the *Relief*, anchored in the harbor of Ponce Medical supplies were in abundance at all times and were freely issued without any formality The *Relief*, and later the yacht *May* brought an additional supply, with many delicacies for the sick Milk was bought and freely supplied to the sick It is the intention of the chief surgeon to establish an extensive out-door receiving hospital as soon as the tentage arrives, which, according to information received from the Surgeon-General is now on the way The number of new cases of typhoid fever in the Porto Rican army will probably be a limited one, and if the troops are recalled as soon as the treaty of peace has been signed, we need to entertain little fear of the indigenous spread of the disease



Ambulance unloading the sick at the door of the Club House in Ponce used as a temporary hospital

Arroyo, Porto Rico, Aug 12, 1898

TYPHOID FEVER IN THE PORTO RICAN CAMPAIGN

BY N SENN LIEUT COL U S V

CHIEF OF OPERATING STAFF WITH THE ARMY IN THE FIELD

[Written for the JOURNAL exclusively]

In Cuba our army met as its most formidable enemy one of the most dreaded of all infectious diseases—yellow fever The Cuban invasion was characterized by hasty action a lack of organization, and inadequate preparation The last crippled the medical department and is responsible for the early and extensive outbreak of yellow fever In less than two weeks after our army landed in Cuba, yellow fever made its appearance, and almost simultaneously attacked the troops from Siboney, the base of invasion, to the trenches before Santiago In less than two weeks from its appearance nearly 500 fever cases, most of them yellow fever, impaired the fighting force and seriously taxed the limited resources of the medical department Fortunately for the army, that type of the disease was mild, the number of deaths few as compared with some of the epidemics in the past Under the circumstances, it was fortunate that Santiago surrendered in time, as the fighting force was being rapidly reduced by the invasion of yellow fever and the ever-present malaria In planning the Porto Rican invasion the possible repetition of a similar experience was taken into due consideration, and timely precautions against such an occurrence were adopted and carried into effect So far our troops in Porto Rico have escaped yellow fever, but soon after their landing, fever cases came into the hospitals at an alarming rate Many of the soldiers were attacked on the transports or soon after landing After landing in Ponce, August 8, I found at least 250 cases of fever in the different hospitals in the city and the division hospital near the city limits Even a superficial examination sufficed to prove that most of the cases were typhoid fever The time which intervened between the departure of the troops from the United States and the appearance of fever, made it more than probable that the infection did not have an indigenous origin In some of the cases it was difficult, in others impossible, to make a differential diagnosis between malaria and typhoid fever without the use of the microscope, and this invaluable diagnostic resource in such cases was unfortunately not at hand Another difficulty we had to contend with was the lack of recorded thermometric observations, which, when accurately made and systematically recorded, prove of such signal service in distinguishing between these two febrile conditions

Pursuant to an order issued by Col Greenleaf, chief surgeon of the army in the field I investigated for two consecutive days all of the fever cases then in the hospitals, for the purpose of locating the origin of typhoid fever In this work I availed myself of the kind and able assistance of Dr M O Terry, Surgeon-General of the State of New York, and Acting Assistant Surgeon Greenleaf, son of the chief surgeon We made a careful examination of 200 cases of fever as they presented themselves noted the principal symptoms and tabulated them (see following page)

A careful study of these cases as well as subsequent developments, furnished adequate proof that 90 per cent of them were genuine typhoid fever No further doubt could remain in tracing the infection to the camps occupied in the United States The great

ORIGIN OF TYPHOID FEVER CASES

No	Age	Company	Command	Camp	Arrived in Porto Rico via	Date and Place of Attack	Tongue
1	19	I	16th Pa	Chickamauga	July 25 Charleston	Before embarking	Furred red at margin
2	20	I	16th Pa				Furred red at margin
3	28		2d Wis		"	On transport	
4	16	Headqr cook	16th Pa		"	July 16 on transport	Dry glazed, sordes
6	23	D	3d Wis			Two days after disembarking	Flabby red
7	21		2d Wis	"	"	Fourth day after disembarking	Coated, red margin
8	23	D	2d Wis		" "	On transport	Coated, red margin
9	21	I	16th Pa	"	"	On transport	Coated
10	21	C	2d Wis		"	On transport	Coated, red at tip and margin
11	21	C	2d Wis	"		On transport	Coated, red at tip and margin
12	17	A	3d Wis	"		Three days after disembarking	Coated, red at tip and margin
13	22	I	3d Wis			On board, one day before landing	Red in center
14	24	G	11th U S Inf	Tampa	August 2	On transport	Dry red at tip
15	19	H	16th Pa	Chickamauga	July 28 Charleston	Shortly after landing	Dry furred red at margin
16	21	H	16th Pa			Shortly after landing	Flabby
17	28	H	3d Wis		"	Shortly after landing	Red dry glazed
18	18	M	2d Wis		"	On transport	Coated, red tip and margin
19	24	I	2d Wis			Before embarking	Dry, glazed
20	31	M	2d Wis	"	"	Before embarking	Dry, glazed
21	30	I	3d Wis		"	In Charleston	
22	20	M	2d Wis			Two days after disembarking	Large, flabby, coated
23	22	K	3d Wis		"	On transport	Large flabby coated
24	21	N	3d Wis		"	After disembarking	Furred, red at tip and margin
25	18	Driver	4th Pa	"	July 25	After disembarking	Coated, red at tip and margin
26	18	B	2d Wis		"	After disembarking	Coated red at tip and margin
27	23	B	6th Ill	Alger	"	Six days ago here	Large, flabby coated
28	21	L	3d Wis	Chickamauga	"	After disembarking	Large flabby coated
29	21	L	3d Wis		" "	Five days ago	Slightly furred
30	20	A	17th U S Inf	Tampa	August 2		Dry fissured, sordes
31	29	F	2d Wis	Chickamauga	July 25 Charleston	Two weeks ago after landing	Flabby, red tip
32	23	Hosp corps	2d Brigade		July 30 Newport News	On transport	
33	25	A	17th U S Inf	Tampa	August 2	Eight days Porto Rico	
34	26	L	2d Wis	Chickamauga	July 25 Charleston	On ship	Coated
35	18	B	2d Wis			On ship	Coated
36	24	I	2d Wis		" "	On ship	Flabby coated
37	26	B	2d Wis		"	On ship	Large flabby
38	32	B	6th Mass		July 28, Charleston	On ship	Dry large cracked
39	23	H	2d Wis			On ship	Dry coated
40	25	Ambulance		"	August 2 Newport News	On ship	
41	23	D	2d Wis	"	August 2 Charleston	After disembarking	Coated red at tip and edge
42	27	D	6th Ill	Alger	July 25 Charleston	On ship	Large, flabby, coated
43	28	I	6th Mass			Three days after disembarking	Flabby
44	21	A	2d Wis	Chickamauga		Six days ago	Dry margin red
45	23	A	5th U S Cav	Tampa	August 2 Port Tampa	On transport	Flabby coated
46	22	A	5th U S Cav			On landing	Coated, red at tip and edge
47	21		2d U S Cav	"	" "	On boat	Coated, red at tip and edge
48	21	A	6th Mass	Alger	July 25 Charleston		Slightly coated red in center
49	27	C	19th U S Inf	Tampa	August 2	On boat	
50	25	C	19th U S Inf			Six days ago	Coated red in center
51	32		2d Wis	Chickamauga	July 25 Charleston	On boat	Coated, red in center
52	20	C	2d Wis			After landing	Coated
53	32	Officer	Transport	Tampa			
54	18	C	6th Mass	Alger	July 21 Charleston	After landing	Coated
55	20	C	16th Pa	Chickamauga		On boat	
56	19	K	6th Mass	Alger		July 6	
57	25		6th Ill			On boat	Dry brown cracked, sordes
58	30	B	5th U S Art	Tampa	August 2	Nine days ago, on boat	Coated
59	24	Ambu corps		Chickamauga	July 24 Charleston	On boat	Coated red at tip and margin
60	19	B	6th Ill	Alger		On land two weeks	Coated red at tip and margin
61	19	B	6th Ill			On land four days	Coated red at tip and margin
62	22	I	7th Cav	Chickamauga	August 2	On shore	Lips and tongue dry
63	26	I	6th Mass	"	July 21	On boat	
64	26	I	Signal corps		July 21 Newport News	On boat	Coated
65	19	B	11th U S Art	Tampa	August 2	On boat	Sordes, coated red at tip
66	29	C	3d U S Art			On shore five days	
67	36	D	6th Mass	Alger	" " Charleston	On boat eight days ago	Coated, flabby
68	18	D	6th Mass		"	At Alger	
69	20	L	6th Mass	"		On shore August 1	Moist sordes
70	20		16th Pa	Chickamauga	July 21 Charleston	On boat	Coated, lips dry
71	22	D	2d Wis	Alger	" "	On boat	Coated red at tip
72	19		5th Ill			On shore, twelve days	Coated, red at tip
73	24	B	2d Wis	Chickamauga	25 "	On boat	
74	20	C	16th Pa			On boat	Furred, dry red margin
75	22	L	16th Pa	"	" "	After reaching shore	Moist
76	26	A	16th Pa	"	" " "	After reaching shore	Large coated
77	18	I	6th Ill			On boat	Moist coated
78	21	I	7th U S Inf	Tampa	August 2	On boat, about two weeks	Dry brown fissured
79	24	C	3d U S Art			On boat	Coated furrowed moist
80	18	K	2d Wis	Chickamauga	July 25 Charleston	On boat	Coated red at tip and margin
81	29	M	6th Ill	Alger		On boat	Dry margins red
82	22	B	5th U S Art	Tampa	" 21 Cuba		Dry margins red
83	21	K	19th U S Inf		August 2	On boat	Dry margins red
84	21	D	3d U S Art	"		On boat	Coated red tip and margin
85	26	B	2d Wis	Chickamauga	July 25	On boat	Coated
86	21	A	3d U S Art	Tampa	" Cuba	On boat	Moist coated
87	21		3d U S Art		Charleston	On boat two weeks ago	Dry furred
88	19	M	6th Ill	Alger	"	On board	Dry coated sordes
89	20		6th Ill	"	"	On board	Dry coated sordes
90	20	L	6th Ill			On board	Dry coated sordes
91	25		4th U S Art	Tampa	August 1, Cuba	On board, four weeks	
92	26	A	3d Wis	Chickamauga	July 28 Charleston	On board	Large flabby
93	29	M	19th U S Inf	Tampa	August 2	On board	Dry coated
94	21	L	2d Wis	Chickamauga	July 25 Charleston	On shore	Large white coated flabby
95	22	C	2d Wis	"		On shore one week	Coated, red tip and margin
96	26	B	19th U S Inf	Tampa	August 2	On shore	Coated flabby
97	19	Ambu corps	Pa	Chickamauga	" Newport News	On board	Coated red tip and edge
98	21	K	3d Wis		July 25 Charleston	On shore two weeks	Coated flabby
99	28	C	6th Mass	Alger	" "	On shore two weeks	Large furrowed dry
100	22	C	6th Mass	"	"	Four days on boat	Coated margins red
101	20	D	2d Wis	Chickamauga	" 29 "	One week on shore	Coated margins red
102	20	M	6th Mass	Alger		On boat	
103	24	I	3d Art	Tampa	August 2	Seven days after landing	Coated, red tip and margin
104	21	Hosp corps	6th Ill	Alger	July 25	7 days after landing Charleston	Coated flabby
105	20	Hosp corps	6th Ill	"		7 days after landing Charleston	Coated, red tip and margin
106		I	6th Ill	"	"	7 days after landing Charleston	
107	24	D	6th Ill	"	" "	5 days after landing Charleston	Large, flabby white coated
108		C	6th Mass			3 weeks before land Charleston	Dry brown fissured
109	20		1st U S Prov	Tampa	August 2	12 days before land Charleston	Dry red glazed
110	24	D	4th U S Art		July 30	Before landing Cuba	White

ORIGIN OF TYPHOID FEVER CASES

Temp	Pulse	Chest	Abdomen	Roseola	Spleen	Epistaxis	Diarrhea	Remarks
101	72	Bronchitis	Tender	Present	Enlarged	No	Yes	
101	96	Bronchitis, slight	Tender	Present	Enlarged	No	No	
								Moribund
99 3	100		Tender	Not present	Enlarged	No	Yes	Great emaciation
102 2	110		Tympanitic		Enlarged	No	Yes	
101 3	100		Gurgling in right iliac fossa	Marked	Enlarged	No	Yes	
102 2	105	Bronchitis slight		Present	Enlarged		No	
102 2	105				Enlarged		Yes	
102	92			Present	Enlarged		Yes	
103 1	100	Bronchitis, slight					Yes	
100 2	80	Bronchitis	Gurgling in right iliac fossa	Present		No	Yes	Chills at first
99	98		Gurgling in right iliac fossa	Present	Enlarged	No	Yes	
100 3	88	Bronchitis	Gurgling in right iliac fossa	Present	Enlarged		Yes	Had measles two weeks ago No chills
101 3	80				Enlarged+		Yes	
102 2	100			Present +	Enlarged		Yes	Intestinal hemorrhage
100 3	76		Gurgling in right iliac fossa	Present	Enlarged+			
102 3	80		Gurgling in right iliac fossa		Enlarged+	Yes	Yes	
101	72		Gurgling in right iliac fossa		Enlarged+	Yes	Yes+	
101 2	72				Enlarged+	Yes	Yes	Doubtful
99 1	76							
102 1	73	Bronchitis			Enlarged+	Yes	Yes	
102	75				Enlarged	Yes	Yes	
102	74		Gurgling in right iliac fossa	Present	Enlarged	Yes	Yes	Chills
104 3	84			Present	Enlarged	Yes	Yes	
101 2	80		Gurgling in right iliac fossa	Present	Enlarged		Yes	
99	64				Enlarged			Doubtful
99	64				Enlarged			Doubtful
103	80				Enlarged	Yes	Yes	
101 4	96	Bronchitis	Gurgling in right iliac fossa	Present	Enlarged	Yes	Yes	Delirious
101	78		Tender	Present	Enlarged		Yes	Chill at first abscess over left olecranon process
99	76		Tympanitic		Enlarged		Yes	Doubtful
100 2	72		Gurgling in right iliac fosea	Present	Enlarged		Yes	
102 2	84		*Gurgling in right iliac fossa*		Enlarged			
100 2	78		Gurgling in right iliac fossa		Enlarged		Yes	
102	84	Bronchitis	Tympanitic	Present			Yes	
104 2	84		Tympanitic	Present	Enlarged			
103	84		Tympanitic		Enlarged			
99 4	60		Flaccid				Yes	Doubtful
104	84			Present	Enormous			Doubtful
102	72		Tympanitic	Present	Enlarged		Yes	
104	86		Gurgling in right iliac fossa		Enlarged		Yes	
100 3	96				Enlarged			Doubtful
104	106		Tympanitic				Yes	No chills
102	80		Tender		Enlarged		Yes	
104 2	84		Pain in iliac fossa		Enlarged		Yes	
102 1	92		Pain in iliac fossa		Enlarged		Yes	
104 2	88		Tender		Enlarged			
102 2	80	Marked bronchitis	Tender		Enlarged		Yes	
101 2	108				Enlarged		No	
101 1	76		Gurgling in right iliac fossa		Enlarged		Yes	
103 3	80		Gurgling in right iliac fossa		Enlarged—		Yes	Doubtful
101 4	120	Pneumonic at apex						
102 2	80		Gurgling in right iliac fossa		Enlarged		Yes	
103 2	90							Abscess in trochanteric region
98 2	70						Yes	
101	96	Bronchitis	Tender and gurgling	Present	Enlarged	No	Yes	
101	80		Gurgling in right iliac fossa		Enlarged		Yes	
102	70		Gurgling in right iliac fossa	Present			Yes	
103	80				Enlarged+			Doubtful
103	90			Present	Enlarged+			Doubtful
103	96			Present	Enlarged		Yes	Doubtful
98	70						Yes	
102	98		Tympanitic		Enlarged			
103	90		Gurgling in right iliac fossa		Enlarged		Yes	Chills
98 2	70							Convalescent
102	80				Enlarged		Yes	
100	70						Yes	No typhoid symptoms
103	112		Gurgling in right iliac fossa		Enlarged		No	
102	100		Tender		Enlarged	Yes	Yes	
102	100		Tender		Enlarged		Yes	
101 2	112		Tympanitic		Enlarged		Yes	
100 3	80							Doubtful
104	120	Bronchitis	Tympanitic	Present	Enlarged	Yes	Yes	
101	80				Normal			Convalescent
101	80				Enlarged			Convalescent
102	100				Enlarged		Yes	Convalescent
102	100	Bronchitis		Present	Enlarged		Yes	
101	80				Enlarged		Yes	
102 2	108	Bronchitis	Pain and gurg in iliac fossa		Enlarged		Yes	
98 4	100		Pain and gurg in iliac fossa		Enlarged			
101	112		Pain and gurg in iliac fossa	Present	Enlarged	Yes	Yes	
103	112		Pain and gurg in iliac fossa	Present	Enlarged	Yes	Yes	
101	90				Enlarged			
100	85		Tympanitic		Enlarged	Yes	Yes	
103	100				Enlarged	Yes	Yes	
102	98		Tender	Present	Enlarged	Yes	Yes	
102 2	[illegible]		Tender	Present	Enlarged	Yes	Yes	
103	90		Tympanitic			No	Yes	
103	100		Tympanitic			No	Yes	Had a sunstroke
						Yes		
102 1	70				Enlarged			
102 4	70	Bronchitis	Tender and gurg r i fossa		Enlarged			
101	60				Enlarged	Yes	Yes	
101 2	88				Enlarged		Yes	Doubtful
102 1	92		Tender		Enlarged			
102 3	82		Gurgling in right iliac fossa		Enlarged	Yes	Yes	
103 1	80		Gurgling in right iliac fossa		Enlarged		Yes	
102 2	100		Gurgling in right iliac fossa		Enlarged		Yes	
102	72	Bronchitis	Tenderness		Enlarged			Chill
101 1	124		Tympanitic		Enlarged		No	Chill
104 4	100		Tenderness		Enlarged			
102 1	80		Gurgling right iliac fossa		Enlarged			
100 3	80				Enlarged			
103	80		Gurgling right iliac fossa		Enlarged			
100	120							[illegible]
103 3	88				Enlarged			
103	84		Gurgling right iliac fossa		Enlarged		Yes	
102	84		Gurgling right iliac fossa		Enlarged			
101	72				Enlarged			

ORIGIN OF TYPHOID FEVER CASES

111	21	D	2d Wis	Chickamauga	July 25	Before landing, Charleston	Large flabby, coated
112	24	Band	2d Wis	"	"	Since landing, Charleston	White coat
113	25	C	19th U S Inf	Tampa	August 2	Sixteen days before landing	Coated, red at tip
114	23	K	19th U S Inf	"	"	Before landing	Moist clear
115	31	D	6th Mass	Alger	July 25	Since landing	Slightly coated
116		I	2d Wis	Chickamauga	"	Since landing, Aug 1, Charleston	
117	32		2d Wis	"	" "	6 days since landing, Charleston	Coated, indented
118	32	B	4th U S Art	Tampa	" "	Two weeks since landing	
119	21	D	5th Art		"	Five days since landing	
120	23	I	19th U S Inf		July 30 Cuba	Since landing	
121	21	C	16th Pa	Chickamauga	July 27, Charleston	In Chickamauga	Irregularly coated
122	23	A	2d Wis		" "	One week since landing	Red at tip and margin coated
123	18	B	19th Inf	Tampa	August 2 Cuba	Eight days before landing	Herpes, sordes dry, brown
124	22	A	2d Wis	Chickamauga	July 25 Charleston	Nine days since landing	Slightly coated
125	32	G	19th Inf	Tampa	" 31	Since landing	Slightly coated
126	23	C	19th Inf		" "	Since landing	Coated red tip and margin
127	28	C	6th Mass		" 27 Charleston	Since landing	Coated red tip and margin
128	21		1st Provincial		25, Cuba	Three weeks before landing	Coated dry at tip, lips herpes
130	23	C	3d Art		"	Ten days since landing	Coated red at tip
131	25	G	19th Inf		August 2 "	Ten days before landing	Dry coated, sordes on teeth
132	21	I	19th Inf	"	"	Six days since landing	Coated, red at tip and margin
133	29	I	16th Pa	Chickamauga	July 25 Charleston	Day before embarking	Coated red at tip and margin
134	23		2d Cav	Tampa	"	At Tampa	Clear moist
135	22	H	3d Wis	Chickamauga	" 27	One week since landing	Boated, red tip and margin
136	26	G	6th Mass	Alger	"	Before landing	Pale flabby
137	21	I	6th Mass		" " "	Five days since landing	
138		C	3d Art	Tampa	" Cuba	Ten days after landing	Coated, flabby
139	28	I	2d Wis	Chickamauga	Charleston	Before landing July 25	Coated, moist
140	22	A	6th Mass	Alger	"	Two weeks since landing	
141	19	Hosp corps	1st Brigade	Chickamauga	August 2 Newport News	Before landing	Large coated flabby
142	21		6th Mass	Alger	July 27, Charleston	One week since landing	Flabby, margin red
143	21		2d Wis	Chickamauga	25 "	Ten days since landing	Coated red tip and margin
144	18	C	3d Art	Tampa	" Cuba	Ten days before landing	Coated red tip and margin
145	18	I	2d Cav		August 2	Before landing	Coated, red tip and margin
146	35	C	3d Wis	Chickamauga	July 27, Charleston	Ten days since landing	Coated red tip and margin
147	22	I	2d Wis		" "	Since landing	Coated red tip and margin
148	23	I	2d Wis	"	"	Three weeks since landing	Glazed, ridged red
149	22	M	6th Ill	Alger		Before landing	
150	23	B	4th Art	Tampa	August 2	Three weeks before landing	
151	26	L	2d Wis	Chickamauga	July 27 Charleston	Since landing	Red moist
152	20	D	2d Wis		" "	Six days since landing	Coated red margin
153	23		2d Wis		" "	Since landing July 27	Glazed moist
154	22	B	3d Wis		" 29	Before landing	Large coated
155	20	D	16th Pa			Five days since landing	
156	22	C	3d Art	Tampa	27	Ten days since landing	Coated
157	19	I	16th Pa	Chickamauga	"	Before landing	
158	21	H	3d Wis		" "	Before landing	Coated margins moist
159	19	H	3d Wis		" "	Since landing	
160	22	B	4th Art	Tampa	August 2	Since landing	
161	19	C	3d Wis	Chickamauga	July 27 Charleston	Before landing	
162	21	F	2d Wis			Since landing July 28	Clear, moist
163	21	C	3d Wis				
164	32	I	4th Art	Tampa	" "	Seven days since landing	Coated tip red, lips herpes
165	21	I	19th Inf	"	August 1 Cuba	Before landing	
166	21	A	2d Wis	Chickamauga	July 27 Charleston	Since landing	Slightly coated fissured
167	21	B	2d Wis		"	Two weeks since landing	Pale margins indented
168	28	A	5th Cav	Tampa		When he left Tampa	Slightly coated
169	37	Teamster		"		When he left Tampa	Large, flabby indented
170			6th Ill	Alger	July 27 Charleston		Coated, red tip and margin
171			6th Ill	"	"		Coated, red tip and margin
172	23		16th Pa	Chickamauga			Flabby, pale coated
173	23		2d Wis		"		Flabby, indented
174	23		6th Ill	Alger			
175	18		16th Pa	Chickamauga	" "		Furred dry
176			2d Wis		"		
177	24		6th Ill	Alger	"		
178	21		6th Ill		"		Slightly furred
179	25		6th Ill				
180		Signal corps					
181	26		16th Pa	Chickamauga	"	Twelve days before landing	
182	21	C	16th Pa	"	" "		
183	23	K	16th Pa	"	"	2 days before leaving Charleston	Coated, red tip and edge
184	29	B	2d Wis	"	" "	Two weeks since landing	Coated, red tip and edge
185	23	A	2d Wis	"	"	Two weeks since landing	Coated, dry
186	19	B	19th Inf	Tampa	" 25	Two weeks since landing	Furred, dry margins red
187	20	A	2d Wis	Chickamauga	"	Two weeks since landing	Coated, flabby
188	24		6th corps U S	Newport News	" " "	Two weeks since landing	Coated, pale flabby
189	22		19th Inf	Tampa	" "	Since landing, August 2	Coated red edges and center
190	21	H	11th Inf	"	"		
191	23	B	11th Inf	"	" "		Dry cracked, sordes
192	23		11th Inf	"			
193		Staff	16th Pa	Chickamauga	July 25 Charleston	When he left Chickamauga	Dry cracked sordes
194	41	Staff	4th Pa	"	August 2 Newport News	Before landing	Moist glazed red
195	30	Staff	6th Ill	Alger	July 25, Charleston	Before landing July 19	Heavily coated
196	32	D	2d Wis	Chickamauga	" "	Before landing	Heavily coated (white)
197	24	H	3d Ill		August 2, Newport News	Before landing	Coated, red at tip and margin
198	22	H	3d Ill		"	Before landing August 1	Dry brown, fissured
199	25	C	3d Ill		" " " "	Before landing	Coated, red tip and margin
200	20	D	3d Ill	"	" " " "	Since landing August 4	Coated red tip and margin

prevalence of the disease among the troops, affecting as it did, more or less, all of the regiments, was a source of uneasiness and anxiety on the part of those who were in charge of the invasion Measures were taken to secure ample hospital room and facilities for the accommodation and proper treatment of those on hand and such as might be brought in later The order to General Wilson to take up the march toward San Juan made it necessary to evacuate the division hospital All of the patients were transferred to the Spanish military hospital in Ponce, which caused the temporary overcrowding to which I referred in a former communication The Spanish military hospital is a substantial, square, one story building with a large court in the center It is built of stone, the floors being made of cement or brick tiling It is on a high hill near the city limits, from which a magnificent view of the city, harbor and surrounding country can be obtained It has a capacity for about 150 beds It required a good deal of labor to make this building fit for the reception of patients Major Dooly and his force worked persistently a whole day in removing the dirt and filth which the Spaniards had left, in their haste in evacuating the city, as an undesirable legacy The hospital was at once supplied with cots, bedding and hospital stores The club-house of the

ORIGIN OF TYPHOID FEVER CASES

103 4	88		Tympanitic		Enlarged		Yes	
102 2	84			Numerous	Enlarged			
103 1	84				Enlarged+			
103	92				Enlarged+		Yes	Doubtful
101	92				Enlarged—			Doubtful
100	88							
104 3	92		Tenderness right iliac fossa		Enlarged+		Yes	
98	88							Convalescent
99	64							Convalescent
99 2	100							Convalescent
102 3	100		Tender		Enlarged			
101 3	68		Tender	Present	Enlarged+			
104 2	98		Tympanitic	Present	Enlarged		Yes	
102 1	80						Yes	Doubtful
102 3	80			Present				
102 3	80				Enlarged			
104	84				Enlarged		Yes	Chills doubtful (Mustered in on day of sailing)
101 4	84		Tender	Present	Enlarged			
102 4	80			Present	Enlarged		Yes	Pulse dichrotic hemorrhage (intestinal)
104 3	88				Enlarged	Yes	Yes	
104 1	84		Tender	Present	Enlarged			
101	76				Enlarged	Yes	Yes	
102	72				Enlarged			
102	72							Doubtful
100 2	86							Sunstroke
100	72							
99 2	76				Enlarged			Malaria
101 2	72				Enlarged		Yes	Doubtful
								Sunstroke treated by Spanish doctor at Guanica
			Tender gurgling rt il fossa		Enlarged		Yes	
103	99		Tympanitic		Enlarged			
102	70		Tender right iliac fossa		Enlarged		Yes	
102	96		Tender right iliac fossa					
104	100		Tender right iliac fossa		Enlarged			
100 4	80		Tympanitic		Enlarged		Yes	
102 2	85		Gurgling right iliac fossa		Enlarged		Yes	
103	80	Bronchitis	Gurgling right iliac fossa		Enlarged			
99 4	74						Yes	Overcome by heat chills (6) malaria
100 2	80				Enlarged		Yes	Convalescent
102 2	80		Tympanitic		Enlarged			
101 2	74		Tympanitic		Enlarged			
102 1	90	Diffuse bronchitis	Tympanitic		Enlarged		Yes	
102	72		Tympanitic		Enlarged		Yes	
92	98 4							Doubtful convalescing
101 2	82		Gurgling right iliac fossa		Enlarged			
101 3	70							Convalescing
101 2	84				Enlarged		Yes	
98	68							Convalescing
98	84				Enlarged	Yes	Yes	One chill
99	70						Yes	Sunstroke convalescing
101 4	68	Bronchitis	Tender right iliac fossa		Enlarged+	Yes	Yes	
98	68				Enlarged+			Convalescing
103 2	70		Tender right iliac fossa		Enlarged		Yes	
99	72				Enlarged+			
99	64				Enlarged+			Convalescent
102	84		Tender right iliac fossa		Enlarged			
102	80		Tender right iliac fossa		Enlarged		Yes	
					Enlarged		Yes	Malaria
101	85		Gurgling right iliac fossa	Present	Enlarged			
102	72		Tympanitic		Enlarged			
100	110	Bronchitis			Enlarged			Doubtful
102					Enlarged			Epididymitis right side doubtful
98 4	98							Sunstroke
98 4	99				Enlarged			Convalescent
Nor	Nor				Enlarged			Nostalgia convalescence
Nor	Nor				Enlarged			Malaria convalescence
100	84				Enlarged			Malaria convalescence
Nor	Nor				Enlarged			Malaria convalescence
99	5[illegible]				Enlarged			Malaria convalescence
					Enlarged			
					Enlarged			
102	84		Gurgling right iliac fossa		Enlarged			
102	98		Gurgling right iliac fossa		Enlarged	Yes		Three intestinal hemorrhages
102	102				Enlarged		Yes	
102	78		Gurgling right iliac fossa		Enlarged	Yes	Yes	
104	98				Enlarged	Yes		
102	80		Gurgling right iliac fossa		Enlarged			
100 4	92		Gurgling right iliac fossa		Enlarged	Yes		Hemorrhages
100 2	80		Gurgling right iliac fossa		Enlarged	Yes	Yes	
104 4	124	Pneumonic condition	Gurgling right iliac fossa		Enlarged		Yes	Death
103 4	104	Bronchitis		Present	Enlarged—		Yes	
104	90		Pain in hypogastrium				No	Gastric fever
101	80				Enlarged	No		Not typhoid
102	72			Present	Enlarged	No	No	
103	80	Bronchitis	Gurgling right iliac fossa	Present	Enlarged		Yes	
103 1	100		Gurgling right iliac fossa	Present	Enlarged—		Yes	
103	80		Gurgling right iliac fossa	Present	Enlarged	Yes	No	

city and a school for girls in charge of the Sisters of Charity, were offered to the authorities for hospital use, and courtesy was promptly accepted For over a week the sick officers occupied the club-house and about fifty patients found comfortable quarters and excellent treatment in the school-house Ponce has a large charity hospital, the "Tricoche with 200 beds under the care and management of the Sisters of Charity The hospital is a model of cleanliness and comfort Col Greenleaf made arrangements with the city authorities to open the doors of this excellent institution for sick officers I am sure that every one who will enjoy the kind treatment and excellent care of the Sisters in these great institutions of charity will have a good word for this ancient and worthy order Out of the 200 cases of fever examined in the different hospitals in Ponce and which appear in the table, the following diagnoses were made at the time Gastric fever, 2 effects of sunstroke 6 malaria 9 doubtful 21 typhoid fever, 162--total, 200

I am satisfied that of the doubtful cases a sufficient number developed typhoid fever to bring the whole number of cases up to 180 In reference to the time the disease developed the following can be gleaned from the table The first symptoms appeared before leaving the United States, 8 on transports [illegible] within ten days after landing, 68, out of a total of 162

As regards the place of infection the cases came from Chickamauga, 90, Tampa, 48, Camp Alger, 23, Newport News, 1—total, 162

The small number coming from Camp Alger, where the disease gained such a firm foothold, which led to the abandonment of the camp, is to be explained by the fact that a large number of fever cases, coming from that camp, were returned to the United States soon after landing, by order of Col Greenleaf All regiments were not affected alike by this disease Among the troops in Porto Rico the typhoid fever cases were distributed as follows

2d Wisconsin	42
3d Wisconsin	17
16th Pennsylvania	17
6th Massachusetts	15
19th U S Infantry	15
6th Illinois	11
3d Artillery	10
4th Artillery	5
11th U S Infantry	5
1st Provisional Corps	4
Hospital Corps	1
17th U S Infantry	3
2d Cavalry	3
5th Cavalry	3
3d Illinois	4
1th Pennsylvania	2
Signal Corps	2
5th Artillery	1
Total	162

In tabulating the symptoms the following facts appear

Tongue	Dry, coated, red at tip and margin	10
	Coated, white fur	21
	Coated, pale, flabby	17
	Coated, red tip and margin	56
	Dry, brown and fissured	20
	Moist, glazed, red	13
	Sordes, lips and teeth	12
Abdomen	Tympanites	29
	Tenderness and gurgling right iliac fossa	71
	Rose spots	37
	Spleen enlarged	141
	Spleen markedly enlarged	20
Epistaxis during prodromal stage		28
Diarrhea		87
Intestinal hemorrhage		3
Bronchitis		20
Delirium		1

The absence of delirium in all cases but one is remarkable, but it must not be forgotten that nearly all of the cases were examined during the early stages of the disease In quite a number of cases this symptom appeared later From the symptoms and the death-rate, ascertainable at this time, it is evident that the disease pursued a comparatively mild course Nearly 200 of the more grave cases were transferred to the hospital ship *Relief*, which sailed from Ponce for New York August 15 Of this number fourteen died en route and twelve were buried at sea In two of these cases death resulted from complications In one case gangrene of the penis, which assumed a progressive form, was the direct cause of death In one case a fatal termination threatened during the third week of the disease from laryngitis and lobular pneumonia A metastatic abscess of the submaxillary gland, which developed in one case, deserves mention as a rare complication of typhoid fever

RETURN OF THE HOSPITAL SHIP "RELIEF" FROM PORTO RICO

The *Relief* sailed from Ponce, Porto Rico, August 15, for New York, and called on her way at Mayaguez to complete her precious cargo of sick and wounded All of the wounded at the last port were taken on board The entire number of patients on leaving Porto Rico was 255, the full capacity of the floating hospital It is probably the first time in the history of the world that so many fever cases were treated on a hospital ship and conveyed from a foreign country to their homes The first day out a brisk breeze caused considerable rolling and pitching of the ship, which induced some cases of seasickness among the patients, but did not seem to unfavorably influence the disease The female nurses worked faithfully and proved of the utmost value to the sick Fourteen of the more severe cases of typhoid fever died on the way to New York Many of the patients improved rapidly during the voyage The *Relief* has done all and more than was expected in serving as a temporary hospital and as an ambulance ship in the treatment and transportation of the sick and wounded

New York, Aug 20, 1898

SOCIETY PROCEEDINGS

The Fourth International Congress for the Study of Tuberculosis

Held at Paris, July 27 to August 2

The Congress was not distinguished by any striking communication, but showed a general awakening on the part of the public and the authorities in many countries, to the necessity of prophylaxis in regard to tuberculosis The official resolutions adopted by the Congress have already been published in the JOURNAL, page 483 It is remarkable that France is behind the rest in the matter of legislation requiring isolation of infected cattle Norway is the most advanced of the European countries in this respect, but has very few animals infected She requires animals seriously affected to be slaughtered at once, and animals that react to tuberculin to be branded and only sold for slaughter No indemnity is paid to the owners The regulations in Denmark are somewhat similar, but the owner receives an indemnity of one quarter to one half the value of the animal when condemned by the inspector The calf of a tuberculous cow must also be taken away from her and raised on milk that is boiled, or from a healthy cow The proportion of tuberculous calves has fallen from 15 5 in 1895, to 10 6 Professor Bang of Copenhagen delivered the address on this subject and stated that the rigorous measures adopted are bearing fruit, as the disease is not increasing, but the reverse He considers the *first* tuberculin test the most reliable, and adds that animals should rest a few days after a journey or other exertion, as otherwise the test is not trustworthy It is not infallible at the best The regulation has quite recently been adopted in Denmark, that no dairy can sell skimmed or buttermilk without first heating it to 85 degrees C, which does not affect the taste of any milk if cooled rapidly afterward The Danish law of March 26 requires the immediate slaughter of a cow affected with tuberculous mammitis Siegen of Luxenburg urged the more general adoption of the practice of sterilizing very much infected meat by cooking with steam under pressure at 110 to 125 degrees C for two or three hours, as is now done in some places in Germany and Holland The meat and gravy thus obtained is nutritious and savory, and is eagerly purchased by the poor at half a franc the kilo No other process actually sterilizes meat from animals with generalized tuberculosis Magnan of Nice described the fine results obtained there by giving official certificates to dairies found free from tuberculosis, with tags for the animals to wear that had passed the tuberculin test He hopes to get the daily papers to call attention to these model dairies often, and the public to patronize them, also to have the public institutions refuse to purchase milk except from certified cows

The members of the Congress first gathered at the new model Boucicaut Hospital, where they witnessed the operation of the frigor or crymotherapeutic service which is fulfilling expectations and brings back the appetite, even in the most pronounced cases of anexoria (*vide* JOURNAL, xxx, 1116) The ozone generator was also inspected, and a couple of meetings during the Congress were devoted to radioscopy and radiography of tuberculous subjects by skilled experts Finsen's treatment of

"Lupus with Concentrated Light" was also described at one meeting, with projections (*vide* JOURNAL, August 6) The address of the President, Professor Nocard, stated that out of 140,000 deaths every year from tuberculosis in France, 100,000 could be averted if contagion could be prevented The difficulties of

HOME DISINFECTION AMONG THE POOR

were graphically portrayed by MARTIN, who described the work accomplished in a certain quarter of Paris where 100 tuberculous subjects resided Their rooms, linen, etc , were disinfected every week, but from lack of fuel to make a fire, the subjects were frequently unable to sterilize daily the cuspidors provided, and frequently they had no linen to disinfect In some cases they were turned out of doors by the family from fear of contagion E Guiter of Cannes described the success of the measures adopted along the Riviera to prevent contagion The out of door life in the sunshine minimizes the danger, and the chambers of tuberculous patients are built to be flooded with sunshine, dry sweeping is prevented as much as possible, all unnecessary drapery and padded furniture is banished, hygienic cuspidors are in universal use, with pocket cuspidors for each patient who seems to be favorably impressed by them (Dettweiler, Vaquier or Petit models) The Medical Society of Cannes has organized a disinfecting service, not only for rooms in which deaths have occurred, but for those occupied temporarily by persons with "open tuberculosis", all transportable articles that will not be injured by steam under pressure, are disinfected in a Heischer and Geneste sterilizer the toilet stand, marbles, etc are washed with sublimate, and the room disinfected with formol vapors generated by a Trillat autoclave, one liter of 38 per cent formo chlorol to each hundred cubic meters, the contact prolonged twelve hours The experiences of Berlioz, Nicolle, Rietsch and Aronson have established the practical value of formo chlorol for this purpose (see especially the *Marseilles Méd* Nov 1, 1897) Disinfection in this manner has been performed 258 times at Cannes during the season or 1898 The physician notifies the proprietor on a slip furnished by the Board of Health, when he considers disinfection necessary The proprietor notifies the disinfecting service, which proceeds to the task under the supervision of a city emplové The Board of Health then remits to the physician his original slip, signed by the disinfecting officer, thus securing a dual supervision, municipal and medical

Dr HIRSCHFELDER described his Oxytuberculin, summarizing his communications to the JOURNAL in the last volume In several of the addresses his name was coupled with Behring's and Koch's, when speaking of recent improvements in tuberculin He reports seventy cases successfully treated, and stated that the oxytuberculin also cures local tuberculosis

THE MODEL SANITARIUM

was discussed from every point of view Bernheim recommends a large central building, with two pavilions connected by wide galleries, with immense piazzas facing the south The bed rooms also face the south, and are finished like a surgeon's operating room The building is planned for 360 patients, two in each room, and if a four months' residence is sufficient, 1080 can be accommodated during the year The isolation of tuberculous patients in the hospitals is an important and beneficial measure, now being carried out at the Boucicaut but it is incomplete and cruel unless supplemented by country sanatoria to which patients can be transferred As Letulle observed "the sanitorium will prove the hope of those who are waiting their chance to go there, the delight of those who enter and find themselves regaining health, and a school of hygiene and prophylaxis for all who are so fortunate as to have passed through it"

Prof LANDOUZY delivered an address on the

PRESENT STATUS OF SERUMATED TOXIN TREATMENT OF TUBERCULOSIS

concluding "the conclusions of Koch in regard to the results accomplished by his new tuberculin T R, have not been confirmed by others, even restricting its use, as he insists, to the non febrile forms It is generally acknowledged to be harmless, and to have a favorable effect on the general health but its action on the tuberculous lesions is less easily established Its effect on cutaneous tuberculosis is more decided, and the determatologists of Germany and England unite in proclaiming that the facts already observed justify further investigation Koch has succeeded in depriving his first tuberculin of its deleterious properties Others have modified it, like Hirschfelder, by oxidizing it, or by passing it through the blood of an animal to accumulate antitoxic properties, like Maragliano Broca and Charrin have also secured favorable results with injections of serum from dogs inoculated with tuberculosis, in patients with surgical tuberculosis Babes and Proca have also succeeded in manufacturing a serum by injecting animals in turn with tuberculin and dead bacilli which has proved immunizing and bactericidal *in vitro* Behring believes that the combination of the resources of serum and toxin therapeutics will, in some distant future, lead to the discovery of the specific remedy for tuberculosis, and Maragliano adds that every effort should be applied to hasten the day Behring has succeeded in curing a tuberculous cow with repeated injections, and he found that the serum of this cow contained a new substance, a true antitoxin of tuberculosis, as her serum would neutralize a considerable dose of specific toxin He is at present engaged in investigating whether certain kinds of birds are not better adapted to the production of a tuberculosis antitoxin than mammals He dissolves the mucin with sodium to extract the toxin from the bacillus more readily, and also dissolves the fatty matters with ether or chloroform, obtaining thus a tuberculin so powerful that one gram will kill 12,500 grams in healthy guinea pigs (*vide* JOURNAL, xxx, 1482) But even admitting that serum or toxin treatment, or both, will ever produce an actually specific remedy for tuberculosis, we must not expect of it more than it is able to accomplish, i e, the cure of the specific lesions, and of these alone This treatment will never be able to cure the secondary infections that invade the tuberculous foci as soon as they become "open" Hence, this specific treatment will never be really effective except in the first stage of the disease It is evident, therefore, that hygiene will always retain its importance in the treatment of tuberculosis, which, even at the best, is more easily avoided than cured"

Prof Fournier called attention to the danger of ascribing to tuberculosis what does not really belong to it, and cited an instructive case of mutilating syphilis of the extremities long supposed to be a tuberculous affection Gallot of Menton reported his remarkable success in curing repeated hemoptysis in the early stages of tuberculosis with hypodermic injections of iodoform as follows oil of neutral vaselin, 25 centigrams, eucalyptol, 5 grams, iodoform, 75 centigrams Inject two centigrams daily Boureau of Tours has found phosphoric acid combined with creosote very effective in improving the general condition of tuberculous subjects It creates an artificial hyperacidity like that of arthritism, thus modifying the hypoacid tendency which is a favorable soil for tuberculosis Calot proclaimed the value of puncture and injections of camphorated naphthol and iodoformed ether in tuberculous arthritis except of the hip joint Reporting thirty nine out of forty cases cured without surgical intervention M Desprez of Saint Quentin again confirmed the value of small doses of chloroform combined with hygienic measures in the treatment of tuberculosis and appealed to others to test this "harmless and truly marvelous antibacillary substance" in epidemic and contagious diseases especially tuberculosis Berlioz of Grenoble announced marked improvement in the general health and gain in weight,—12 kilos in three months in one case, and 4 kilos in fifteen days in another, in a large number of tuberculous patients he has been treating with a medicated serum consisting of normal beef serum, phosphate of guaiacol and extracts of the testes, liver, brain, lungs, thus combining sero and opotherapeutics He administers 30 grams a day of this mixture, per rectum, and finds the sweats, expectoration and cough subside with the remarkable improvement in the general condition He continues the treatment several weeks or months Fever is not a counterindication Two febrile cases thus treated showed the same subsidence of the symptoms as the others

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SELECTIONS

Ancient Medical Fees—Bombaugh presents a study on "Medical Fees in Ancient Greece and Rome" in the *Johns Hopkins Hospital Bulletin*, for August The first such fee of which he finds specific record was one recorded by *Herodotus* as given by Darius to Democedes of Crotona a slave of Oroetes and consisting of two pairs of fetters of gold "In his day in Greece, the usual fee paid to physicians for incidental visits was very small, in fact not more than two groats sixteen cents or about one thirtieth of the customary fee in England in our time, one guinea." It was customary for physicians to be engaged by the year by the municipality, and paid *from* public funds In Ægina Democedes received one talent a year about £[illegible] in Athens his salary for a year was 100 minæ [illegible] later receiving a like sum when residing at Samos According to

United States 'Pharmacopeia'?" the total number of answers was, 298, affirmative, 238, negative, 60, non committal, 5, no answers, 8 Some answered "Yes, they have come to stay" "Yes, in proper hands valuable" "Yes, with due discrimination" "Yes, where nature and mode of manufacture is known" "Yes, if they can be sufficiently defined" "Yes, the most important ones" "Yes, acetanalid only" "No, except antifebrin" "If they do only in an appendix" "Not without formulæ" "Not till we know more about them in every way"

To question 8, "Shall antitoxin serum be given a place in the United States 'Pharmacopeia'?" the total number of answers was 293, affirmative, 224, negative, 69, non committal 5, no answer, 13 Some say "Pehaps so, although I do not consider it as reliable a remedy as some do" "Antitoxin serum will probably not be used ten years hence, but while it is used *the manufactory should* be watched" "Yes, especially diphtheritic" "Yes, if it can be sufficiently defined" Yes, one standard" "Not till its value is fully and definitely determined" "No, druggists should keep on hand and dispense closed packages" "No, unless more exactness is obtained" "Emphatic—no Classify them as poisons and place with their class"

To question 9, "Shall fermented and distilled liquors be dismissed from the United States 'Pharmacopeia'?" the total number of answers was 287, affirmative, 67, negative, 220, non committal, 2, no answer, 22 Some said "Yes, except alcohol" "Yes, as I consider them very seldom indicated and very often used improperly" "So *far as possible* they should" The two non committals give interrogation points as answers

To question 10, "Are you in favor of introducing the metric system in prescribing?" there were 301 answers, affirmative, 138, negative, 163, non committal, 4, no answers, 6 Some say "Yes, but not discarding the old while our people continue to think in 1/4, 1/3, 1/2, etc, instead of 1/5, 1/10, 1/100, etc" "Yes, when done by an act of Congress, for it is of the utmost importance, and to avoid mistakes" "Yes, if made universal" "Yes, for all except grains and fractions thereof, i e no decimals" "Yes, if made compulsory by law" "Yes, I think it the most correct system" "Yes," *think both should* be given in the United States 'Pharmacopeia'" "Yes, both systems should be used" "Decidedly As I am an American and our system suits me, let others come to ours if they so desire" "It should be optional for a time, but certainly would be best, and no doubt will be fully adopted" "Established it in the St Louis City Hospital many years ago Have used it exclusively ever since 'in practice'" 'I have never been able to see any great advantage in it" "Not to the exclusion of the old system" "Not until generally used by law of Congress" "Hundreds of physicians do not understand it and would cause many serious mistakes All who desire can use it anyway Therefore leave the old system in vogue and all will be pleased" "No, errors in dispensing would be multiplied by use of the metric system" "No, English for Americans" "No, America good enough" "No, no, it's un-American" "No!!! Be Americans and for God's sake quit aping other nations It's no more scientific than our own" "Not to make it compulsory upon the physician or to exclude the use of the old weights and measures" "No, I am in favor of more light being given the intelligent public than now obtains There is far too much empiricism" "No, but the system should be given and taught in our schools"

Lamaistic Practice Among the Mongols —A French army surgeon, J J Matignon, resident at Pekin, has given an account of Mongolian medicine, based on information received from a native who was for a time physician to the living Buddha of Ourga, an important town some 800 miles northwest of the Chinese capital Medicine among the *Mongols* is a monopoly of the Lamas There is a school of medicine at Ourga, where, after a prolonged course of philosophy and Buddhist theology, three years are given to the study of the art of healing Mongolian medicine is largely derived from Chinese and, through that, from European medicine as it was two centuries ago The European strain comes *from the old treatises translated* into Chinese by the Jesuits in the reigns of the Emperors Kien Long and Kan si Mongols do not dissect, and their knowledge even of the position of the internal organs is vague The number of diseases is fixed at 440 Works on medicine are very numerous, the chief one being a kind of encyclopedia, entitled "Khlantap," which is divided into eight sections and consists of 156 chapters Their methods of physical examination are full of marvels Thus more than seventy varieties of pulse are described The urine is examined with great minuteness in respect to its color, smell, and clearness, samples passed at many different hours of the day being used It is also subjected to a kind of *auscultation, being beaten with a wooden* spatula, and the vessel then quickly applied to the ear In the case of rich patients the examination is made more thorough by tasting, a procedure which naturally is made the ground of a special charge

Mongols, like practitioners of former days in Europe, profess to be able to diagnose and treat all sorts of cases on the strength of an examination of the urine alone The treatment is largely internal, and their pharmacopeia is mainly composed of vegetable substances Every year, in September, the students make excursions under the direction of their teachers, for the purpose of culling samples, which are dried, classified and catalogued *Aromatic plants, such as* cinnamon and benzoin, play a large part in their thereapeutics Animal and mineral substances are also used but to a much less extent The Mongol doctor carries his drugs about with him Each medicament, dried and triturated, is put into a small leather bag, which is properly labelled, some practitioners carry as many as three hundred of these bags enclosed in a larger one, or in a box with a spoon to measure the doses Like the ecclesiastic physicians of the Middle Ages, the Lamas are forbidden to practice surgery, although in cases of crushed limbs or other severe injury necessitating amputation, they may direct a butcher how to use a knife They practice venesection, however, use poultices for the maturation of abscesses, and vigorous massage for the relief of headache and other pains Recent wounds are dressed with lichen of the steppes or with deer fat They use counter irritation by moxas, acupuncture and ignipuncture, and they practice wet-cupping by *means of ox horns*

Preparations of sulphur and lead are used as applications in diseases of the skin, and bathing in hot sulphur springs, in syphilis Fish's bile is credited with the power of curing cataract Human bile, and that of the bear and of the hyena, also *frequently enter into the composition of their medical* preparations Mongol doctors seek to restore vigor to old men by the internal administration of ram's testicles "Organo therapy" is also employed Thus, the flesh of the sheep is given for vertigo, that of the antelope for diarrhea, that of the water rat for nephritis and dropsy, *that of the marmot for dys*menorrhea, that of the beaver for spinal disease and impotence, that of the wolf in diseases of the stomach They are acquainted with the parasiticide properties of mercury, and use it to destroy the vermin with which their countrymen are generally infected The most prevalent diseases at Ourga are syphilis and skin affections, but typhus, typhoid, malaria, and other fevers are very common In treating fevers they purge with rhubarb, and when that fails they give enemata or suppositories, the latter being composed of salt and sugar They also give nux vomica sudorifics, and ginger, and juniper is burnt round about the patient Cholera is treated chiefly by acupuncture under the nails, on the tongue, and around the anus, and as a last resource by burning the pit of the stomach

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE

Per Annum in Advance	$5 00
Foreign Postage	2 00
Single Copies	10 Cents

In requesting change of address give old as well as new location

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THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No 61 Market Street (Occidental Bldgs) Chicago Illinois

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SATURDAY, SEPTEMBER 10, 1898

CONCERNING THE IODIN REACTION (FLORENCE'S REACTION) WITH SEMINAL AND OTHER FLUIDS

Three or four years ago FLORENCE[1] of Lyons secured a peculiar formation of crystals when semen was brought into contact with concentrated solutions of iodin While he failed to find this reaction in other fluids from the human body and in semen from animals, he nevertheless wisely refrained from claiming an absolutely diagnostic importance for these crystals He looked upon the crystals as indicating the probable presence of semen, and that in such cases one should look so much more carefully for the absolutely positive evidence, namely, the presence of spermatozoa

The medicolegal importance of demonstrating that stains are due to seminal fluid is of course very great The investigations of FLORENCE were painstaking and extensive, and his results have received abundant corroboration In America, W JOHNSTON and WHITNEY[2] have studied the reaction extensively RICHTER[3] tried all the substances which are demonstrable in the semen, and obtained the iodin reaction only with lecithin and cholin He also found the reaction occasionally in decomposing body fluids, and expressed the suspicion it did not concern any specific body but the presence of lecithin and cholin

GUMPRECHT[4] has attempted to more closely demonstrate the chemic nature of the body which leads to the formation of the crystals

The technic of FLORENCE's reaction is very simple The solution consists of water, 30 parts iodin, 1 65 parts, potassium iodid, 2 54 parts Other iodin solutions do not give as constant results The reaction is produced under the cover-glass The drop of iodin solution is placed upon the slide a drop of spermatic fluid, or a watery extract of a suspicious spot, is placed near by, and then the cover-glass is so placed that the line of contact of the two fluids meets near its center At the point of contact of the two fluids there is immediately formed a layer of granules and crystals The crystals are in reality of a long, rhombic form, about three times as long as broad Sometimes they are much longer and look like needles These crystals are brown in color

The most important peculiarity of the crystals is their dichroism They separate polarized light in their long axis, but allow it to pass through in their transverse axis The slight polarization of the reflected light from the mirror or the microscope is sufficient to enable one to recognize this characteristic optic phenomenon in connection with many crystals dark color when the long axis is placed parallel with the entrance of the light, and light coffee-brown color when the long axis is placed transversely to the direction in which the light enters the field

The substance in question was found to be soluble in water, alcohol, ether and chloroform Lecithin resembles this body in its solubility, and GUMPRECHT corroborates the fact demonstrated by RICHTER that lecithin gives the reaction But lecithin nevertheless differs from this body in the semen in so far as it is not soluble in water, but only swells up, and also in the fact that it is precipitated by chlorid of cadmium It was further found that fresh lecithin mixtures did not give the reaction, so that it seemed only natural to suppose that the body is not lecithin itself, but a derivative of that substance

Further experiments showed that in all probability the body which caused the reaction is very closely related to cholin, which can be derived from lecithin Lecithin is ubiquitous, and it therefore seemed peculiar that a derivative of lecithin should be found in the spermatic fluid and not in other tissues The explanation of this problem is to be found in the degree of disintegration of the lecithin and in the concentration of the fluids GUMPRECHT found that a whole series of human tissues and secretions give the iodin reaction very beautifully as soon as the splitting up of the lecithin takes place and the solution becomes sufficiently concentrated from evaporation He therefore reaches the conclusion that this reaction is dependent upon a certain period or step in the lecithin disintegration and about the same period at which cholin appears

In spermatic fluid even the fresh this state of affairs is physiologic and so cholin is demonstrable by the usual reagents In manifold other fluids and tissues containing lecithin, the necessary splitting up of the compound can be produced artificially or through bacterial influences (decomposition) The small amount of albumin in semen in all probability favors the appearance of the iodin reaction, whereas in other fluids, such as pus, sputum, milk, and the fluid of organs, the large percentage of albumin rather prevents the reaction

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[1] Arch d Anthropol Criminelle 189[illegible] and 189[illegible]
[2] Boston Medical and Surgical Journal 189[illegible]
[3] Wiener kl Wochenschr 189[illegible]
[4] Centralbl f Path Anat 1898 No 14 and 1[illegible]

Having thus, in a measure at any rate, cleared up the reaction, it remains to examine into its medico-legal importance fresh *semen and dried seminal spots*, even of considerable age, have always been found to give positive reaction, decomposed semen, as well as *older solutions of semen even when not decomposed*, give none or but a feeble reaction The juice of the testicle and the contents of the seminal vesicles give *no reaction*, the juice of the prostate varies in its behavior Organs from the cadaver, such as the brain, thymus, spleen, kidney, liver, often give the reaction, even very soon after death Sputum, pus and fat do not give the reaction, except after preparatory treatment with Ba2(HO), it would seem, then, that the value of the reaction in the preliminary study of seminal spots can not be denied Its value in the positive as well as in the negative direction becomes, however, somwhat limited on account of decomposition, which may destroy the reaction in the seminal fluid, and which may produce the reaction in other organs and fluids of the body Furthermore, there are very many other substances outside the body, such as plants, butter, and eggs, which in a decomposing condition, may give the reaction, and this would seem to be the greatest weakness of the test, because butter, eggs, as well as various vegetable substances, often give rise to spots upon clothing, a fact which should never be lost sight of in studying suspicious stains

BRACES IN SPINAL CURVATURE

What greater mistake can there be in medicine than that of fitting a brace to a child suffering from spinal curvature? Yet this very mistake is repeatedly made by both physician and instrument-maker, to the extreme misfortune and permanent deformity of the child There are in medicine and surgery a number of conditions which are hidden from observation and palpation, perhaps they are further obscured by a feeling of uncertainty in the anatomy of the part, and at no time in the course of the disease can we see, feel or measure in millimeters the exact extent of the lesion The physician will invariably draw down the curtain of obscurity before such a case lose his clearness of vision and make haphazard thrusts at both diagnosis and treatment Such a region is the spine It is very difficult to examine the spine, the part that is usually diseased (the body of the vertebræ) it is impossible at any time to palpate, and nerve symptoms are characteristically confusing In an uncertain case of skin disease we may make a diagnosis of eczema and be correct in a large percentage of cases, but in diseases of the spine we *may not* make a diagnosis of tubercular caries because it likewise is a common affection of the spinal column The two conditions of tubercular caries and spinal curvature differ so widely in their causation, symptomatology and treatment that each must have a clear-cut picture in our mind when examining spinal cases

Tubercular caries is a condition of osteomyelitis of the bodies of the vertebræ caused by the presence and growth of the tubercle bacillus There is a progressive destruction of the supporting column of the body and an invariable train of symptoms must follow These symptoms are, briefly a reflex rigidity of the muscles to fix the affected region, pain in the distribution of the nerves emerging from such vertebral segments, pain on motion, preventing the child from stepping hard or jumping, fixation of the spine the child holds to furniture as it walks around, angular deformity in an antero-posterior plane, lastly, abscess and paralysis from characteristic features of the later stages of the disease While no age or class of children is exempt from spinal tuberculosis, it is found most frequently in poorly nourished children between the ages of three and ten years

Lateral curvature of the spine, on the other hand, is, as a rule, not a disease of the vertebræ, but a lack of symmetry between the two sides, with a rotation of the bodies of the vertebræ on a vertical axis The causes of such a condition possess such decided importance, and are best divided into predisposing and exciting causes The predisposing causes are prolonged ill-health, rapid growth and rickets occurring in girls between 12 and 20 years, while the exciting causes may be a one-sided position at school, a faulty position in standing, an obliquity in the pelvis, and it would seem from the fact that it is usually right-sided that a hypertrophy of the muscles on this side acts as a prominent factor The symptoms of this disease are likewise at variance with those of Pott's disease The first symptom is noticed by the dressmaker, who finds it necessary to pad one shoulder She observes an "angel wing" (a prominent scapula) or a high hip, and very soon a prominence of the ribs on one side appears because of a rotation of the vertebræ on their vertical axis At once a lack of symmetry is produced between the two iliocostal spaces, the one deep, the other long, and an S curve made by the spinous processes completes the picture There is no pain at any time, no tenderness on pressure no fixation of the spine, the curvature is always lateral and paralysis or abscess never appears The one point that these two conditions have in common is the involvement of the spine

What folly, what total lack of reason it would seem then, to put a splint on a weak muscle! The fault is entirely one of nutrition and development The ligaments are lax and insecure, the muscular development on one side is greater than that on the other, and a natural result from such inequality of forces will be a shortening on the side of greatest muscular power When the condition is once established, the added leverage only serves to increase the deformity Indications for treatment are positive An out door life in a tonic atmosphere, regular hours for eating and sleeping, baths, no apparatus and systematic gymnastic exercise prescribed by a physician, represent the measures best calculated to give results Apparatus only defeats the objects of the treatment in a great majority of cases, by preventing development, and apparatus, no matter how skillfully constructed, can not correct a deformity of this kind

THE CURABILITY OF EPILEPSY

Epilepsy, which is commonly treated of as a spinal disease in the text-books, is also there usually considered as a curable one, at least to a certain extent Practically, however, well marked cases in adults are commonly estimated as incurable, and there are neurologists who seem disinclined to admit even the small percentage of recoveries that others allow as possible Dr **Wharton Sinkler**, for example, in a recently published paper, appears to take the ground that a suspension of epileptic symptoms for a term of many years is to be considered rather as a remission than a cure, in fact, he apparently considers it hardly justifiable to put down any case as cured He has collected a series of twenty-four cases altogether, in which the epileptic symptoms failed to reappear for various periods ranging from two to twenty-nine years, including eight cases in which they were lacking from five to nine years, and four cases of even longer intervals The surprising feature in his figures is that they do not include a larger proportion of cases with the shorter intervals of two and three years, which it would appear ought to be more common than those of the longer periods, and this suggests the possibility that these latter include some of those instances that are not so infrequent after all, when a single epileptic attack, or possibly a series of such occur at a certain time in an individual's life, it may be under some special toxic influence or condition of mental or bodily over-strain, and then fail to recur, perhaps for the remaining period of his existence Almost every one, it would seem, who has had large experience with epileptics ought to have met with some of these cases, and it is not uncommon even in asylums, where the patients are under close observation, to meet with cases counted as mild dements in whom an occasional epileptic attack occurs at intervals of several, or possibly a number of years Such cases are not commonly considered as cases of cured epilepsy, or sometimes are hardly reckoned among the epileptics in the classification of the institution There are still other cases known to asylum physicians, where epilepsy has passed into chronic insanity, sometimes of the delusional type without any pronounced dementia and which has continued for many years, indeed through the whole remaining life of the patient without any epileptic symptoms whatever

When we consider what epilepsy really is viz, a symptom or a collection of symptoms of cortical irritability or excitability, in all probability dependent upon a very wide range of pathologic conditions, from irreparable organic changes on the one hand to slight vasomotor disturbances from various causes on the other, there seems to be no good *a priori* reason for holding it to be invariably incurable It would appear indeed, more reasonable to admit that what is pathologically indistinguishable from epilepsy that undergoes recovery should be classed with epilepsy, and that well-marked cases of the disorder may therefore be counted as curable The infant's cortex is particularly unstable, it may be irritated to the extent of producing general convulsive phenomena with every symptom of epilepsy in the adult, and yet its recuperative power and developmental possibilities are such that it does not by any means follow that infantile eclampsia implies later epilepsy They are practically the same thing, and the distinction that is made between them is a purely arbitrary one based on the fact that one is recovered from, while the other, as a rule, is not, there is certainly a logical defect in every argument for the incurability of epilepsy founded upon such a distinction as this In children past the age of actual infancy the progress of epilepsy is still relatively favorable, and most practitioners of experience with nervous diseases have had cases in such that they felt justified in considering as cured The more complete the development of the brain, the more serious is the prognosis as a rule in the disorder, it is true that we do not often meet with a cure of so called idiopathic epilepsy in the adult, and yet it would be unjustifiable to say that it does not sometimes occur The question is what we shall call a recovery according to Dr G M **Hammond**, in the discussion of Dr **Sinkler's** paper in the American Neurological Association, a complete absence of epileptic symptoms for the space of three years ought to be reckoned as a cure, and any subsequent recurrence should be considered as another attack from a different cause There is reason in this, though others might demand a larger interval of freedom from symptoms, it is usually little more rational to call such an occurrence in epilepsy a remission than it would be to say that the interval between a first and a second attack of pneumonia, for example, is a remission The morbid excitability of the cerebral cortex, of which epilepsy is a manifestation, once allayed, the patient is practically well and there is no inherent presumption against the permanency of the recovery If external irritation could be avoided the cures would be more numerous, but the continuance of an even slightly greater susceptibility to excitation than is exactly normal renders a relapse the more possible In a certain proportion of cases, not a large one it is true, there undoubtedly is a restoration to an approximately normal condition, and there is reason to think that in a smaller proportion the morbid process may produce an obtunding instead of an aggravation of the excitability thus tending to dementia or insanity without characteristic epileptic phenomena In the majority of cases, however, the epileptic symptoms continue in spite of the brain deterioration and the disorder is accounted as incurable

The proportion of actual cures of epilepsy is small Dr **Joseph Collins** estimates it, however, as high as 5 per cent under proper and steady treatment When we take into account the juvenile cases this is probably not too large, and if we include infantile eclampsia in epilepsy, not large enough Add to these the cases where only one or two attacks occur in a lifetime, and the patient survives them many years, even without treatment—and there are many such cases that hardly come under the care of physicians—and the proportion is still further increased

It is beyond question that there is a risk of too early estimation of cures in epilepsy, but three to five years' freedom from attack ought, it would seem, to justify the counting a case as recovered Post operative cures are in fact very commonly reported far within such a length of observation, but they ought to be subject to the same rules as to interval and observation as others, and will not be likely to alter the statistics in the way of making them any more favorable Organic disease and serious developmental defects are probably responsible for the majority of epilepsies, but there remains a proportion that are probably due to conditions that are themselves not altogether incurable, or are at least amenable to treatment, and in these there is at least a possibility of cure Still others are due to temporary intoxications or overstrains, and if there be not irreparable damage set up they may even undergo a spontaneous cure which may escape medical observation The dictum of the incurability of even adult idiopathic epilepsy is, therefore, not fully warranted by observation or based on well-established pathologic facts

THE CHAIR OF PHYSIOLOGIC CHEMISTRY IN MEDICAL COLLEGES

What produces the symptoms of epilepsy, of hysteria, of gout, lithemia, uremia and rheumatism? What is the nature of antitoxin and how is the morbific agent of acute infectious diseases destroyed by its action? We are beginning to know something about pathology, therapeutics, and physical diagnosis, and we know a great deal about anatomy, surgery and bacteriology A system of diseases has been built up from the knowledge of micro-organisms We have reached that point of knowledge in bacteriology, where it becomes possible to extract wax from the tubercle bacillus, to stain its spores and the flagellæ of the bacillus icteroides Sanarelli We believe that typhoid fever is due to the Eberth bacillus and that its introduction into the small intestines gives rise to manifold symptoms But we do not know to what all these symptoms are due. When there is a disturbance of the metabolic activity of the liver, of the pancreas, of the stomach and small intestines in typhoid fever, a complex condition supervenes and it may be an open question whether the toxin given off by the specific organism is in the ascendancy or whether the other ptomains together with leucomains play the principal part If we start out with the proposition that the symptoms of hemicrania, lithemia and asthma are due to uric acid, and the symptoms of uremia to members of the creatinin group of leucomains, we again meet with extreme difficulty in proving the proposition by exact experiment

In the United States two conditions confront the original investigator at the outset 1 There are few laboratories fitted for this work and, 2, there are comparatively few competent to instruct in chemistry from a physiologic standpoint In Germany, where institutions for original research are aided by the Government, and where men are guaranteed a certain income or salary to conduct one series of observations, we necessarily hear a great deal of the "Congress fur innere Medicine," and of "internal medicine," during the summer and winter semesters The migration of medical students to the old world can not be effectually stopped until the teachers in the colleges of North America write the text-books used by those across the water

In our rapid stride, searching for the cause of disease, the department of bacteriology has been pushed with extreme vigor and we become discouraged on further inquiry to find that the cause for the many symptoms of disease lies hidden within a labyrinth of physiologic and chemic problems at present beyond our comprehension The United States does not lack investigators in these problems There are thousands of younger physicians here eager to undertake this work if they only had the training and the opportunity The time has long since passed when, by simply injecting hypodermatically a certain drug, one could ascribe certain definite symptoms as the resultant We have passed beyond that stage, and things are now on a surer foundation capable of withstanding the flings of unrelenting criticism

If we should take an inventory of the different medical colleges in this country in which there is a department of physiologic chemistry, we would find that there would be comparatively few fitted for giving proper instruction in this department, notwithstanding a four-year course is a prerequisite for graduation, and for which necessary expense the student, be it said, should in return get value received The student can not undertake these experiments alone His mind must be under the supervision of one fitted to detect the occluded sparks which lead toward the hidden goal Another thing Those who would undertake to conduct original research in internal medicine, more especially with leucomains for instance, must not be surprised that these all-important bodies can not be purchased in the open market, and that in order to get a few grains of them the first prerequisite is to secure from fifty to seventy-five gallons of urine Truly it must be said that in our zeal for the exploration in other fields in the different medical colleges of the land, the coming study of the day lies buried in the mist which only time and necessity will brush away

Let us have a Department of Public Health!

THE INDIFFERENT ANESTHETIST

There is something essentially wrong in the methods of administering anesthetics when the laity begin to revolt against existing methods and prepare to dictate to the anesthetist how he shall administer an anesthetic During the past few months the *Nineteenth Century* has contained articles condemning certain existing methods of administering chloroform in England, and that of June concludes as follows "Let each one of us refuse resolutely to take chloroform or allow any member of our family to take it without first obtaining a guarantee from the anesthetist that he will administer it in an open cloth held at a given distance from the nose and that the time taken to put us under shall not be less than eight minutes ' There is a further proposition that the violation of any one of these rules be an act punishable by law

The mind of every medical man must needs revolt against the layman dictating methods to the profession and presuming to say that he shall do his business in this way or that Disagreements among doctors as to diagnosis, prognosis and treatment in a given case have done far too much already to give the layman an incredulous mind and furnish him with grounds for criticising the physician in charge because he does not agree in his methods with his (the patient's) preconceived ideas of the proper conduct of the case This attempted dictation as to the administration of chloroform would call for an answer that would confine itself to a dignified request to "mind their own affairs," were it not for the fact that there is a great fault just where the criticism falls and justice does not permit us as medical men to ignore it within the profession The "stiflers" among anesthetists are made the point of attack, and a visit to many of our hospitals will demonstrate just what is meant by the term The fault in this country is for the most part limited to the administration of ether where the most inexcusable indifference to the patient's comfort is often demonstrated The man who gives the anesthetic in a hospital is regularly the youngest man on the staff, a fresh graduate with theoretic teachings alone, or the example of another interne, as his guide The cone, soaked with ether, is crowded down over the patient's face and he makes a courageous effort to stand it for a time Very soon, however, he struggles to save himself from what these patients afterward describe as a feeling of imminent suffocation and death, and gains a breath of fresh air only in those cases where the orderly or orderlies are unable to hold him down When the patient is under, the anesthetist, who has given ether two or three times, wishes to demonstrate to the assembled students and spectators his entire familiarity with etherization by indifferently gazing around the room or at the field of operation, or he exchanges jokes with a bystander This is essentially wrong and it is a wrong to be corrected by the operator himself No operator should permit any man to administer his anesthetics unless he is competent to do so and willing to direct his undivided attention to the patient The suffering of the patient alone is sufficient reason for the gradual administration of any anesthetic, and the dangers, immediate and remote, are sufficiently great to demand the minimum dose and the proper regulation of the dose As long as the system of the hospital internes exists there will continue to be "swell heads," and the operator alone can remedy his fault of feeling that he knows everything about etherization

CORRESPONDENCE

A Defense of Music

CHICAGO, Aug 25, 1898

To the Editor —In the JOURNAL of July 23 appears an editorial upon the "Hygiene of Music," which, while judiciously advising against the abuse of the art, contains some statements that I would like to reply to From the general tone of the article I would almost infer that the writer is one of those unfortunate, over scientifically trained individuals who, in their zeal for "utilitarianism" have lost their artistic sense Darwin, to whom he refers as attributing the love of music to the sexual sense, clearly stated in his own writings, that though he possessed a lively artistic temperament in his youth, his constant application to science had so warped his mental faculties that in later life it was torture for him to read a great novel, and it was simply impossible for him to enjoy a line of Shakespeare I know an individual whose sexual appetite (from his own confession) is as excessive as any I have ever heard of and yet he is absolutely deficient in the sense of music. Libertines and prostitutes are not, as a rule, particularly musical, while, on the other hand, the great composers with some few exceptions, have led lives as virtuous as the average If music is the "food of love,' and love is to be reduced to mere sexuality it can rejoice at least in being in good company in its misery Some scientists reduce man to two appetites the sexual and the alimentary and according [illegible] love friendship dancing music [illegible] and about everything in life that gives enjoyment [illegible] spring of sexuality or gluttony *Homo* [illegible] Weissmann (quoted in the editorial) thinks the musical [illegible] 'abnormal' which is indeed a very [illegible] reach after the teachings of Darwin that music [illegible] that it is even related to the love notes of the birds [illegible] how science does wobble when it attempts to dissect the *beautiful*, or that which is not strictly *utilitarian*! If the sense of music be abnormal, then how many abnormal people there are in this world of ours Perchance the birds and some of the tamer animals that reveal at times a kind of musical sense are also abnormal The clergy tell us that there will be music in heaven, but who would want to be in heaven if it is to be abnormal? Would that the "abnormal" Darwin, if he is so unfortunate to be now where there is music, would only come to the theorizer about heredity, so that for the credit of "science" a better consistency might be obtained between their present hopelessly divergent views, for our logic is inadequate to reason out the harmony between the theories of these men "whose opinions," the editorial writer shows, "are best worthy of respect" If, as Weismann says, "music is a secondary effect on the organs of hearing induced by cultivation," how, pray, does it happen, as Darwin said, that it is a concomitant of sexuality and "analogous to the love notes of song birds" It seems to me somebody's opinion here is *not* "best worthy of respect" It has been agreed by the evolutionists that, in the development of the human race, the musical sense, of all the senses, is the last to have been acquired If my memory serves me, I think they state that it is about thirty thousand years old Surely what the human race has possessed for thirty thousand years can not by this time be so awfully abnormal! The same evolutionists have calculated, I believe, that about 47 per cent of human beings are lacking in the musical sense Therefore, I take it, *a la* Weismann, that the *majority*, 53 per cent must be all abnormals Our lively and entertaining friend, Nordau, would probably rise up with a sneer and exclaim "true," for he seems to find degeneracy and abnormality quite rampant amongst us I marvel, however, that a *scientific* editorial writer should quote Max, for after the same manner Juvenal might be made to testify that there was no virtue whatever in Rome, and Rabelais will prove that every churchman in his day was a libertine and a wine bibber

"Music in itself is not intellectual," says the editorial writer Neither is a quiet stroll on the boulevard, or rowing or tennis or even sleeping, and a goodly number of other things which we do in life, and yet find more or less essential Some things minister to the intellect, even if they are not strictly intellectual Hear what that arch utilitarian, John Stuart Mill, has to say about it "the only one of the imaginative arts in which I had from childhood taken great pleasure was music, the best effect of which (and in this it surpasses, perhaps, every other art) consists in exciting enthusiasm, in winding up to a high pitch those feelings of an elevated kind which are already in the character, but to which this excitement gives a glow and a fervor, which, though transitory at its utmost height, is precious for sustaining them at other times" If intellection is so supreme a desideratum, would it not be well then for some of us to stir up our intellects with music! Almost the first requisite of intellection is imagination One can not think without, to a certain extent, imagining, and all other things being equal, the man with the clearest insight (imagination) will reason the most clearly Faraday, Liebnitz, Dalton, Newton, Columbus, Laplace, and nearly all the *great* scientists were men of vivid imaginations, and with some of them music awakened the imagination and from their imaginings sprung the great intellectual ideas with which they have endowed the world

Again the editorial declares that "one of the greatest poets has said that to appreciate poetry a trace of morbid mentality was essential" Strange that the author should quote a poet, a kind of musical man, against poetry, for one would think he would not care much for what a *poet* says! As a fact, however, he is quoting Macaulay ("Essay on Milton"), who is scarcely "one of the greatest poets" who wrote his "Essay on Milton" when he was a very young man, this being his first essay, and who, according to his writings elsewhere, never intended that his words should be construed as literally as the editorial writer takes them If the musical faculty is "compatible with a profound degree of dementia," so is the mathematical faculty, the memory and almost every department of the mind As an argument for the "morbid mentality" associated with the musical faculty, Blind Tom is about as weak as even the imagination can conceive of For one Blind Tom, who after all represented not the best type of musician, there are thousands of rational beings richly endowed with the musical sense, as witness an army going into battle to the strains of soul stirring music, or a throng of people cheering for Old Glory and singing their patriotic songs Is not that utilitarian enough and are not those people rational enough, to suit our friend, the writer of the editorial? What is after all *utilitarian* and what is *rational*? We hope he will some day give us a definition of these terms so that we may know *exactly* when we are crossing the Rubicon from the useful to the useless, from the rational to the irrational Milton sings

> "There let the pealing organ blow
> To the full voiced choir below
> In service high and anthems clear
> As may with sweetness, through mine ear
> Dissolve me into ecstacies
> And bring all heaven before mine eyes"

And likewise Wordsworth

> "Where music dwells
> Lingering and wandering on, as loath to die,
> Like thoughts whose very sweetness yieldeth proof
> That they were born for immortality"

If such be the office of music, is it therefore less "utilitarian" than the act of cooking, of buying and selling corner lots, of digging trenches and reading stock quotations? Well, perhaps it is, but, frankly, I have seen some real estate men and stock brokers, genuine utilitarians—yea, and even some scientists—men of one idea and that a utilitarian idea—that I strongly suspected of being on the verge of a "*morbid mentality*" more than I ever suspected the whole troop of musical enthusiasts put together I think I have even heard them talk (as for instance in reasoning about some patent medicine and its marvelous curative powers in their own cases) more *irrationally* and less *intellectually* than the great Beethoven or Mozart must have communed with themselves when evolving their sublime symphonies and concertos

Our editorial friend has fallen into the error, too common with scientists, of supposing the merely utilitarian, the tangible, to be of the greatest value St Paul was a great thinker and he declared that the unseen things were eternal So that which stirs the soul—whether it be music or poetry or painting, whatever tends to lofty ideals and noble acts—is utilitarian in the highest and best sense of the term To be sure it may be abused and here the editorial is notably commendable in warning against the abuse of art The readiness with which it may be abused is only another evidence of its nobility The more delicately a watch is constructed, the more carefully it should be handled Because we all do not understand its mechanism and because it is quickly shattered in the bungling hands of some of us let us not condemn it as the offspring of "a morbid mentality" or as not utilitarian, or as always the outcome of sexuality and gluttony When I listen to the depressing, materialistic, utilitarian mutterings of "science," I am inclined to exclaim with Carlyle, "what in these dull immaginative days are the terrors of conscience to the diseases of the liver! Not on morality but on cookery let us build our stronghold, then brandishing our frying pan as censor, let us offer sweet incense to the devil and live at ease on the fat things he has provided for his elect"

L HARRISON METTLER, M D

How to Suppress Quackery

ROLLA, MO, Sept 1, 1898

To the Editor —Ever since the 4th of March, 1897, when Governor Lon V Stephens put his fist to the bill entitled "An act to regulate the practice of the science of healing diseases and injuries without the use of drugs, known as osteopathy," and sent the congratulations by wire, of himself and wife, to the father of the imposition, praising him for "the wonderful advancement he had made in medical science," Missouri has had to confess with shame, that she is the mother of one of the grossest frauds that has ever been imposed upon the sickly and weak minded people This bastard to science has been advertised in the daily and weekly newspapers, and the laity has read only one side, until rational physicians are looked upon as "jealous cranks who oppose scientific progress '

I was a member of the 38th General Assembly of Missouri, when Edward Higbee introduced and championed this freak of science, known as House Bill No 445 I had to suffer the intense pangs of seeing a large majority of the members in both houses misled by an organized lobby telling how that wonderful man at Kirksville cured sore eyes by replacing a nerve on the back of the patient's neck, how he cured consumption instantaneously by stretching the pneumogastric nerve, how he cured Pott's disease by untying the spinal cord, how he made the lame walk by pulling their legs, etc The large vote by which this bill passed both houses only proved the ignorance of the average legislator on medical subjects, and the able manner in which Governor William J Stone wrote his veto to it, proved that Missouri was then fortunate enough to have a Governor possessed of a good education, good judgment, love for the people, and executive ability and nerve enough to do the right, whether it be popular or unpopular Whilst I am a Republican in politics, I do not believe that Governor Stone has received all the honor from rational physicians due him I would like to see every honorable physician in our State keep a life sized portrait of this able statesman hanging in his office, in token of the high appreciation of the medical fraternity for the friend to science and truth But it is not my intention, in this article, to condemn or to eulogize any individual, but to suggest a method by which empiricism, charlatanism, osteo hypno humbug ism, or any other fad or false theory calculated to deceive and swindle the sick, can be suppressed

So long as a rigid "Code of Ethics" prevents educated and honest physicians who strive more to get knowledge of how to relieve the sick, than they do to accumulate wealth, from using the newspapers for the purpose of enlightening the people, quackery will have the advantage, for the people who can read will read, and they will read such things as they find in the newspapers It is not necessary to state that the newspapers contain a large amount of paid for quack advertising, gotten up for the purpose of misleading the sickly and weak minded, and after swindling them out of their last dollar, something that is easily done, when they read only one side, but will not stand the test when the truth is printed, for one word of truth can explode one hundred words of false theory, when properly applied

The method to subdue quackery which I propose is this Let every physician in each county in the State require his candidate for the legislature, to promise that he will vote against all forms of quackery and humbuggery, and that he will vote as advised by the leading physicians of his county and district, on all subjects pertaining to medicine and surgery This promise should be required irrespective of party affiliations, and our party prejudices should never be so strong as to allow us to ever vote for any man who has supported quackery, or who is likely to do so

Partisanship is one thing, and politics is another It is the duty of a physician to exercise a reasonable amount of interest in the politics or government of his State and nation, especially for the protection of citizens in their rights with the preservation and improvement of their morals but he should never become a partisan to the extent of voting for any person who favors charlatanism

Missouri has about 5000 regular physicians This number is sufficient to resent the insults of both political parties, which have been thrust at the regular profession in the 38th and 39th Assemblies, and repeated at the Democratic and Republican State conventions recently held in Springfield and St Louis

If the medical press, the medical societies and the State Board of Health will take a united interest, and furnish to all physicians of our State a list of all men who have supported, or are apt to support, the fads and frauds above mentioned, and furnish a few suggestions on the subject, I think I am safe in predicting that within from two to four years' time osteo hypno humbug ism in Missouri will be numbered with the slain

The following members of the 38th General Assembly supported House Bill No 445, introduced by Edward Higbee, entitled "An Act to Regulate the Practice of the Science of Healing Diseases and Injuries Without the Use of Drugs, Known as Osteopathy

House —Armstrong, Arnett, Atkins, Best, Bittinger, Bothwell, Bourn, Breit, Cape, Carroll, Cherrington Collins, Coppedge, Carroll, Cox, Crisp, Daneri, Davidson, Davis (Taney), Davison, DeFord, Denslow, Drum Dyer, Ferguson, Freeman, Fuson, George, Gill, Gmelich, Griffiths, Grubb, Hammond Harrison, Hart, Higbee, Hinde, Johnston, Jones (Hickory), Jones (Jackson), Julian, Kasey, Kline, Kyler, Lane, Leroy, Lynch, McCollum, McKearley, McKee, McPherson, Marsh, Middleton, Moore (Mississippi), Moore (Stone) Moran, Mueller, Murray, O'Dell, Odneal, Old, Phipps, Porterfield, Pratt, Rohne, Sachse, Sartin, Schoppenhorst, Schumacher, Sherrill Smith (Buchanan), Smith (Howell), Steel, Stickney Sullinger, Swanger, Tartar, Walton, Warner, Wasmeyer Weaver Weinhold, Wetzel, Young (St Fran), Young), Texas, Mr Speaker

Senate —Amelung, Ballard, Bledsoe, Brewer, Busche, Davisson, Drum, Dunn, Kennish, Klene, Lancaster, Landrum Love, Lyman, McClintic, Madison, Morton Mott, O Bannon, Peers, Powers, Seaber, Walker, Williams, Wurdeman, Yeater

The following members of the 39th General Assembly supported the same bill when introduced by Mr Pickler and Mr Seaber

House —Alldredge, Armstrong, Averill, Aydelott, Barnett, Bittinger, Bohart, Bradford, Bradley, Breit, Brueur, Burroughs, Caldwell, Cashion, Christy Clarke, Clymer, Cock, Coffey, Cole, Collins, Cox (Lewis), Cox (Oregon), Crisp, Curry, Daugherty, Davault, Davidson, Davis (Chariton), Denslow, Dougherty, Dunn, Dyer, Ehrhart, Erman Fitzgerald, Frost, Hale, Hamilton, Hart, Hawkins, Hays, Hendrickson, Hess, Hood, Hopkins, Ijams, Jenkins, Johnson (Cooper), Johnson (St Louis), Koch, Kramme, Lee, London, McCullom, McKim, McMonigle, McPherson, Martin (Barton), Martin (Callaway), Mashburn, Moeller, Morris, Mueller Neville, O Dell, O'Fallon, Organ, Pickler, Piner, Piper, Pope Prather, Pyeatt, Rebo, Regan, Rohne, Ross, Rubey, Russell (Dade), Sawyer, Schumacher, Sessinghaus Shewmaker, Sickles, Smith Snidow, Spofford, Tandy, Taylor, Thomas, Truitt, Tubbs, Vanderhoef, Vandiveer, Wade, Walmsley, Ward, Weaver, Williams (Jefferson), Wood

Senate —Anderson, Brewster, Burkhead Childers Davisson Drum, Gray, Hohenschild, Klene, Landrum McClintic, Major Marshall, Matthews Miller Morton Mott O Bannon Orchard Peers, Powers, Schweickardt, Seaber Vandiver Wells Williams —Lon V Stephens

The foregoing is a correct list of both Republicans and Democrats who supported osteopathy in the two last General Assemblies of Missouri, as shown by the Journals of the House and Senate which I desire to have printed in each medical journal in the State, and all others that are read in the State

J L Short M D

The Physiologic Approach to Education

New York City Sept [illegible] 18[illegible]

To the Editor —Some one has said recently that there are three avenues to the approach of education the [illegible] the sociologic and the psychologic [illegible] university settlement [illegible] reform in education [illegible] their respective portions of the same great problem Who will best develop and clear the physiologic pathway?

In a generation's time the aim of education has been completely transformed In years past our boys and girls were trained for too circumscribed spheres, the one for the special trade or profession perchance selected, the other for lines far narrower, the purely domestic or social routine Today the projectors of education are satisfied with no scheme that aims not at the development of every faculty, lurking or alert There has been achieved great advance in the true direction, but there are also recognizable defects even in present day systems and possible threatenings of mistaken gains

Life has been defined as the relation of incident forces and external environment School life, educational life, follows the same law Yet too often we see environment neglected and little heed paid to coincident forces, the result being an asymmetric development of material A minor proportion of our children may be as carefully nurtured in their physical as in the mental growth, the vast majority are less fortunate Go with me into any school of average size in a cosmopolitan city, where children of all grades of society commingle They show quite alike, irrespective of social condition, too evident marks of malnutrition, of defective home hygiene, of faulty trained or neglected eye and ear, of neglected muscles, of universal errors in dress Add thereto many faulty conditions of school hygiene, of over crowded classrooms, ill lighted, worse ventilated, of dark playground or of none at all, of ill suited furniture for little aching spines and developing hips Few large schools are found in over crowded New York City, that are not over topped by many storied factories, whose noises do not aim to rise above those already hideous of city streets Is it sweetly reasonable to expect from like environment, well developed mental foundations?

What may be said of the incident forces? In all revisions of schemes of study of recent date, generous provision is made for mathematics, for language and literature, for music and drawing, for botany and biology Of what use be these, if the child acquiring them be not most familiarly acquainted with himself and the laws that regulate all his efforts to acquire and attain? In truth, the course of study providing with sufficient liberality for this first great science, physiology, is yet to be discovered Within the last two decades there was conceived the idea of its being essential to instil into growing youth a "popular knowledge of stimulants and narcotics" The intention was excellent, but its accomplishment inefficient For the purpose physiology was introduced into the school curriculum, but in so defective a manner, and with so narrow a presentation, that the only impression produced on the mind of the irreverent student, is a frivolous regard for the "liquor books" Is it justifiable that outside of the medical profession, there should be no persistent and thorough investigation of physiologic laws and no proper presentation of them? In not half a dozen of the numerous public schools of New York City, is physiology taught by a physician I presume this to be a fair average of similar conditions in other cities In the medical college of the least pretension, there is a theoretic course of two years in this subject In addition, many months of practical laboratory work are obligatory Moreover, the entire four years' college work is a continual round of emphasis and review of the fundamental physiologic problems of the first year All the wealth of clinical instruction now available to any student, is abounding with practical demonstration of physiologic laws For example, the abstruse problems of blood pressure and vasomotor mechanism are solved in every case of organic disease, the trophic nerves and their function in every case of even the superficial skin lesions Yet with all the constant iteration and reiteration of important truths, but few physicians feel qualified to aspire for the chair of physiology in their own Alma Mater Contrast the conditions cited with those encountered in the majority of our best secondary schools, where the teaching of these same important facts to minds far less prepared to receive them, is intrusted to one who has had no more than elementary training in "Science Lessons"

I am confronted with the argument that our school children are not in training for the medical profession I am no less sure that this fact itself makes it important that the necessary modicum of knowledge be presented by one familiar with its deepest bearings In other details are our incident forces sadly inefficient Too little attention is paid to the selection of proper text books covering the sciences So glaring are the errors found in instances, that within a month the medical society of a neighboring State discussed the necessity for presenting to the AMERICAN MEDICAL ASSOCIATION a petition for the official supervision of such books In pursuit of such investigation no less than seven differing publications were found, each pleading guilty to positive errors of fact, or to loose and unscientific presentation of important problems There is no work more fascinating, more interesting than that of human osteology Yet in not one text-book is there consideration given to the wonderful architectural principles demonstrated in the physiology of the skeleton In speaking of the chemistry of bone, custom is universal in calling the mineral matter found therein phosphate of lime, this is a loose bit of chemic inaccuracy, for lime is more correctly the phosphate of calcium In the chemistry of the blood many are the lapses of accurate statement In but one book have I found any attempt at satisfactory explanations of the oxyhemoglobin and its really wonderful composition and function, very many careless statements are made describing the circulatory and respiratory systems, in but one authority is it distinctly stated that the nose and not the mouth is the proper entrance to the respiratory passage In none can I find any distinction between active and passive organs of respirations, laying full stress on the value of each By one only, are the important vasomotor and tropic nerves studied Assuredly there is need of reform in this "physiologic approach" to education With the best of material, is it rational to expect an intelligent acceptance of the science within the scope of one year, and that usually a year of immaturity? Is it not worth a struggle to put within the reach of our boys and girls a scientific knowledge of the laws of life and health, to foster at least an incentive to the admonition now ages old, "know thyself?"

FRIEDA E LIPPERT, M D

53 Washington Square

Examine Railway Employes' Eyes Periodically and in a Scientific Manner

CHICAGO, ILL, August 31, 1898

To the Editor —The importance of railway signals and their correct observation by employes is a matter the subject of which has been given a great deal of study by all railroad officers, to the extent that every conceivable form of signal that genius, talent and mechanism can contrive has been tried and each in turn served the period of its usefulness and relegated to the background, the cruder machine being supplanted by a more perfectly constructed one until today our railway signals are equal in construction to those produced in any country The medical profession has not kept pace with these mechanical students in their teachings of how to correctly observe these signals and thereby avoid accidents

The average railway surgeon is provided with a few crude tests as to color vision and is taught how to correctly operate them by a superior medical officer totally unfit and incapable of giving such instruction, the superior medical officer in many cases being incompetent himself to pass judgment upon the interior of an eye as viewed with an opthalmoscope, therefore, since he does not know anything about the interior of an eye as viewed with an ophthalmoscope, he is unable to ferret out the cause of the color blindness and is unable to give advice or instruction concerning it. In this regard the medical profession has not kept pace with these railway officials in this line of study.

To correctly observe a signal means to avoid the accident and is therefore of vital importance to all railroads. Vast sums have been expended by railroad officials to attain this success in the perfection of their various signal contrivances. Why, then, should not the medical profession teach the railway men the proper *modus operandi* to be pursued in correctly observing them.

The average railway surgeon is provided with a few skeins of yarn and taught that if the employe can not ferret out the various colors, but confuses them, he is color blind and must be rejected by the railroad officer examining him. Now these skeins are all right in their place, but there is a difference sometimes in the luminosity of these colors and in the wave lengths of the ethereal vibrations producing them giving to the color a different hue when mixed with other colors and thereby causing the employe examined to be rejected when the color blindness is only temporary and apparent and no pathologic condition present to produce it, and blindness which could not be again produced. Again, very many railway men have learned that they confuse red and green and that they must upon examination call red green. Here the man has a pathologic lesion discoverable, it may be, only by the aid of the ophthalmoscope or by an accurate mapping out of the color field by the perimeter, which few if any of the surgeons have, and which is equally important with color blindness as to lesions producing it.

No man is capable of judging an employe's color perception who can not correctly survey the fundus, noting the probable cause producing it or map out his color field or make the various tests for spinal cord or brain lesions that might produce it. Very many eyes are rejected because they can not read 20/20 (that is see at 20 feet what they should see at 20 feet), all this because the medical examiner does not know the healthy organ when he sees it and does not know, that it is, perchance, simply a slight refractive error easily remedied by the proper refractive correction. Moreover, very many diseases prevalent among railway men, such as syphilis, rheumatism, Bright's disease, tuberculosis, etc., not sufficiently marked to lower acuity of vision at the time of examination, which later produces total blindness in the organ, go by undiscovered by the railway surgeon and a grave accident results. The railway surgeon should be correctly instructed concerning positive and negative scotomas, how detected, and their signifiance as to the correct observation of signals. I said in a recent paper published in the *Railway Age*, that, "If any man can not read 20/20, that is, see at 20 feet what he should see at 20 feet, which for practical purposes is infinity, he should not be at the head of a passenger train freighted with human lives." If he can not read 20/20 and his fundus is normal, why not give him the proper correction and let him wear it. Periodic examinations by competent oculists would remedy the defects, if refractive, and ferret out the poor sighted employes, and, where possible, correct their vision by properly adjusted glasses.

I am aware that railroad officials are loath to part with trusty employes and for that reason keep their old employes in the most hazardous positions. This is as it should be, save that if upon frequent examinations it becomes a known fact that the particular employe has diminished acuity of vision from any source unremediable he should be substituted by a younger but equally trusty employe, whose acuity of vision can be made perfect or nearly so. I believe that the older employe with lessened acuity of vision should be given the less important positions where signals are not observed.

Another condition is that of hemeralopia and nyctalopia night and day blindness, where an individual may see perfectly for twelve hours out of the twenty-four and indistinctly the other twelve. These symptoms are manifested in certain retinal affections, and discoverable, it may be, only by the aid of an ophthalmoscope the individual, if being examined, declaring that he sees perfectly, while the ophthalmoscope shows an acute or chronic, traumatic or albuminuric retinitis or retinitis pigmentosa. Another condition is that of tobacco amblyopia, sooner or later to affect the optic nerve by causing atrophy of it, scotoma, contracted field, color blindness and finally total blindness of the eye. The same condition is possible by imbibing too freely in spirituous beverages. Who is to pass judgment on this condition? No one but the skilled physician who is able to survey the interior of an eye.

Very many other conditions might be cited, prevalent among railroad men, which lower the acuity of vision, and which therefore necessitate a periodic examination of all employes' eyes by competent oculists, especially employes having to do with signals. Every railroad should have a competent oculist with enough assistants to correctly examine, periodically, both subjectively and by means of an ophthalmoscope, the eyes of all employes having to do with signals. This will, if properly executed, lessen the railway accidents the first year by one half and relieve the railway surgeons of one of the supposed functions of their respective offices. I am aware that all railways employ oculists in name, but not in fact, their supposed function being to examine the fundus of all feigners in railway accidents and pronounce them healthy eyes and to be a general consultant in case the railway surgeon accidentally suspects some fundus lesion.

Recently in a medical journal I noted an expression from a railway surgeon of note in which he claims that the employe's character is of vastly more account to the railway employing him than is his eyesight. In my judgment both should be good and no employe placed who can not demonstrate that he has both good character and good eyes. A law should be passed in every State in the Union compelling the railway companies to periodically examine all their employes having to do with signals and especially those in the train service. This would prove no injustice to any, but would be a boon to humanity in the saving of lives and a saving to the railroads in thousands of dollars spent annually on accidents.

JNO. RANSOM HAMILL, M.D.,
Ass't Surgeon Illinois Charitable Eye and Ear Infirmary.

The Association and the Colleges

LOUISVILLE, KY., Sept. 5, 1898.

To the Editor:—In the JOURNAL of September 3, page 537, Dr. T. J. Happel, ex-vice-president of the AMERICAN MEDICAL ASSOCIATION, says: "After carefully reading the notices sent out by Dr. Wm. B. Atkinson to the deans of the several colleges in the United States, I am satisfied that the ASSOCIATION has attempted to reach a point which it should attain in an unconstitutional manner. Had this point of order been made against the resolution at the time it was offered, as the presiding officer of the ASSOCIATION on that day, I would have decided the point well taken, and have ruled it out of order."

Dr. Happel presided on Wednesday at the time the resolutions were offered. He referred them to the business committee. On Thursday the business committee recommended their adoption, Dr. Happel, again presiding, put the question and decided the resolutions unanimously adopted. He was then the only person authorized to decide. He was at that time under solemn obligation to execute all the provisions of the constitution of the AMERICAN MEDICAL ASSOCIATION. He decided then as an officer clothed with full power.

It is now about three months since he ceased to be an officer and it is an unheard *of proceeding for him to undertake, after* he has passed out of office, to decide that his conduct in office was *irregular, unconstitutional* and void Does not Dr Happel know that ignorance of the law can never be pleaded as an excuse for its violation?

The resolutions are an ordinance of the Association, and not a constitutional amendment, and, whilst they affect the qualifications of certain persons holding membership, they are, in fact, intended merely as an addition to the by laws

The constitution says of delegates, and other members, that they "shall continue such so long as they remain in *good standing* in the body from which they were sent as delegates, and *comply with the requirements of the by laws* of the Association," and of the permanent members, "so long as they shall *continue to conform to its regulations*" The constitution, therefore, decides that the provisions of the by laws are to determine the qualifications of membership, or rather, the conditions upon which membership may be continued See Art ix of the by laws, entitled "Conditions Excluding Representation"

The resolution to which Dr Happel makes reference does not alter or amend the constitution of the Association It amends Art ix of the by laws by adding to the specifications of conduct which shall exclude from representation

Article viii of the by laws formerly contained this paragraph (Transactions, Vol xxxi, page 191) "It shall be the duty of every member of the Association, who learns that any existing medical school departs from the published conditions of graduation, to report the fact at the annual meetings, and, on proof of the fact, such school shall be deprived of its representation in this body" The by laws, in relation to the conditions excluding representation, have been amended so often that it would require a large octavo volume to contain all of them The only rule with which I am familiar, concerning amendments to the by laws, is that set forth in the first Article, which says "the order of business shall, at all times, be subject to the vote of three fourths of all the members in attendance"

I am sure the Association will enforce the provisions of the resolution, it must do so or stultify itself The technical quibble about attempting to make the resolution appear as an amendment to the constitution is both unreasonable and absurd

The profession of medicine can not have more than one standard of qualification The minimum curriculum of the College Association, which has been unanimously adopted by the American Medical Association, is the lowest that can be accepted of any candidate for admission to the regular medical profession in the United States The Degree of Doctor of Medicine must be of equal dignity and effect, whether conferred in the North or the South, the East or the West, there can be but one standard

Dudley S Reynolds

An Osteopathy Assertion

Chicago, Sept 4, 1898

To the Editor —The recently issued circular of the Chicago College of "Osteopathy" contains the assertion that the "orificialist" E H Pratt (one of the faculty) is a member of the Chicago Academy of Medicine He has never been a member nor (as the Chicago Academy of Medicine is affiliated with the American Medical Association) would he be eligible

Jas G Kiernan, M D, Secretary

NECROLOGY

James K Hogan, M D, Long Island College Hospital, N Y, 1888, died at his home in New York City, September 3, aged 42 years He was a native of Ireland and a graduate of Queen's College, Cork, before he arrived in this country Two small children are his survivors

George McCreery, M D, Bellevue Hospital Medical College, 1877, died on board the transport *Catania* and was buried at sea He was appointed an Assistant Surgeon, U S Army, and attained the rank of Major at the beginning of the present war

Dr L v Dittel, in his 83d year The Vienna school loses in him one of its most brilliant minds, and the science of urology one of its modern founders His name is, perhaps, best known by one of his minor achievements, the elastic ligature of hemorrhoidal nodules

Dr G Zancarol, at Alexandria, Egypt A prominent physician among the European colonies in Egypt and writer on medical and surgical subjects and international hygiene

Dr Bonsdorff, aged 83 Formerly professor of anatomy at Helsingfors

William H Bennett, M D, N Y University Medical College, 1870, died at his home in Brooklyn, N Y, September 1, aged 54 years ——J P Fryer, M D Ypsilanti, Mich, August 26 ——F S Hilbish, M D, Fremont, Ohio, August 25, aged 56 years ——W B Scales, M D, Sedalia, Mo, August 27, aged 57 years ——John Stearns, M D, Washington, D C, August 26, acting U S Surgeon Fourth Mass Heavy Artillery, during the civil war ——Richard Townsend, M D, Philadelphia, August 28 ——William Vannuys, M D, Anderson, Ind, Rush Medical College, 1855, August 28 ——J M Wilkinson, M D, Dover, Del, August 25, aged 48 years

PUBLIC HEALTH

Reduction of Typhoid Fever in the French Army —One of the chief factors in the reduction of the number of cases of typhoid in the French army is the regulation forbidding the men frequenting saloons, cafés, etc, where non sterilized water is used The consequence is that the proprietors vie with each other in the work of sterilization

Unlowered Death Rate in Diphtheria —The discussion following Professor Kassowitz's arraignment of antitoxin treatment and the Klebs Loeffler bacillus, mentioned in the Journal, page 257, lasted four weeks and packed the rooms of the Vienna k k Medical Association to the doors, in spite of the midsummer heat, at each session In conclusion Kassowitz stated that he had accomplished his purpose if he had called attention to the fact that antitoxin treatment is not a *res adjudicata*, but is still on trial, and required scientific weighing of actual facts, instead of blind laudation

The Mosquito and Leprosy —The mosquito is now credited with the transmission, not only of malarial infection but of leprosy Prof Sommer of Buenos Ayres in an article on "Leprosy in the Argentine Republic" (*Semana Médica*, June 23), notes that in hot countries leprosy is more frequent in localities where there is much water and hence larger numbers of mosquitoes He considers this the explanation of the prevalence of leprosy among fish eating populations, which used to be ascribed to the fish Kaposi reported at the recent Lepra Congress the case of a tourist on a steamer passing through the Suez Canal who was stung on the finger by a mosquito and a leproma developed at the spot

How to Exterminate Mosquitoes —An almost imperceptible amount of potassium permanganate—1 to 1500—is fatal to the mosquito, according to the *Public Health Journal* By scattering the crystals here and there, a handful of potassium permanganate will oxidize a ten acre marsh and kill all the mosquitoes and their embryos in it, thus freeing man from the pest for thirty days *Janus* for August states that an oil medium is better than an aqueous for insecticides, as the oil works its way into inaccessible crevices Another communication de scribes the peculiar behavior and evident epidemic among ants, in the course of the bubonic plague in India

Acclimatization in the Tropics —Dr Koerfer proclaims in the *Deutsche Med Woch* of July 7, that if Europeans would leave their pork fat, their meats and their alcohol at home with their furs and heating stoves, when they go to reside in the tropics, they would avoid all the disturbances that are erroneously ascribed to the climate, but which are, in fact, only due to the failure to conform to natural laws He considers that nature makes the food conform to the climatic conditions—from the fish oil polar zone, through the pork fat temperate zone to the olive oil and vegetable tropic zone He writes from an experience of several years in the tropics, and adds that he never saw a single case of sunstroke nor impending symptoms, and that he felt better subjectively when actively employed than when lounging, no matter how high the temperature

***Prophylaxis of Tuberculosis** —One of the Paris dailies observed* in reference to the Tuberculosis Congress "The scientists now tell us that thousands of lives will be saved every year if we will only spit in our pockets" It has been suggested that the "family plan" might prove as beneficial for tuberculous children as it has proved for the mildly insane It would be cheaper to board children in families in the country than to provide special sanatoria for them, of course restricting the plan to children with ganglionary or osseous tuberculosis, not open lesions Andvord considers it more than probable that the seeds of tuberculosis are implanted in early childhood in an overwhelming majority of the cases that develop later, especially in children Hence true prophylaxis is to guard the children from infection, and cure at once all scrofulous and catarrhal symptoms and tendency to a contracted chest, cough and rapid pulse

Military Status of Medical Officers —"The medical officer should be the commander in chief in campaigns in hot countries" are the concluding words of an article by Professor Le Dantec of the French navy, in the *Arch Clin de Bordeaux* for July "The real enemy is the climate, and none but natives or negroes should occupy the lowlands White troops should never be called upon for garrison duty or work in hot countries except in elevated regions" He quotes the popular sayings "In the tropics, every white man who tills the soil digs his own grave' and the Madagascar boast, "Our country need not fear invasion, as it is defended by General Tazo, the fever" In the northern hemisphere, he adds, there is no country exempt from paludism south of the sixtieth parallel, while in the southern hemisphere all the countries south of the thirtieth parallel are free from it, i e persons coming to reside there are not affected with intermittent fever, including La Plata Patagonia, New Zealand and even New Caledonia While stationed at Bourail, the chief agricultural center of the French colony in New Caledonia, he had no call for a single grain of quinin during the entire year He considers the terms paludism, tellurism, malarial infection, etc, unscientific and suggests "Laveran's disease' as the most appropriate term

The Royal Tuberculosis Commission Report —The recent report of the British Committee on tuberculosis is to be regarded as an epoch making document which will undoubtedly lead up to valuable life saving legislation in the near future This is the third commission within the last ten years to inquire into the subject The last was the Royal Commission of 1890 which established the foundations of our knowledge as to the relation between tuberculosis in man and the means by which it is imported through the flesh and milk of tubercular animals The chief recommendation to secure the purity of milk is that notification of every disease in the udder should be made compulsory, under penalty on the owners of all cows and this is followed by a recommendation that local authorities should be invested with powers of systematic inspection and analysis Medical officers should also be empowered to suspend the sale of milk of any suspected cow and to prevent the sale of milk from a cow with a diseased udder Then come important recommendations with regard to the regulations of cow sheds and byres Certain leading principles are laid down under this heading, including the provision of proper water supply and drainage facilities, of a minimum cubic space of from 600 feet to 800 feet and a minimum floor space of 50 feet for each adult beast and of sufficient light and ventilation, the last named being the most essential requirements These requirements are directed chiefly to dairy accommodation in populous districts, the conditions in rural districts vary so widely with local circumstances that no minimum cubic space can be specified, the one end to be kept in view being the maintenance of reasonable ventilation without draughts All these precautions, however, are recognized to be but temporary and uncertain palliatives so long as no attempt is made to eliminate the disease from the animals themselves, and this part of the inquiry may therefore be regarded as the groundwork of the whole The commission is of the opinion that if the tuberculin test is skilfully applied and the animals which react are carefully separated from the healthy ones, the disease may be reduced to small proportions in a limited time and at a moderate expense The precedent set them by the Danish Government forms the basis of their recommendation that funds should be placed at the disposal of the Board of Agriculture for the preparation of commercial tuberculin, and that stock owers should be encouraged to test their animals by the gratuitous offer of a veterinary surgeon to see the test applied This offer is, however, to be conditional on the owners undertaking to isolate reacting animals from healthy ones and to keep their stock under satisfactory sanitary conditions, especially in *regard to air space, light and ventilation In Denmark* the results of the government's experiment have been most encouraging, and if similar results are obtained in this country we may hope to see our agriculturists gradually eliminating the scourge of tuberculosis from their herds and enabling us to look forward to the day when we may be able to check the spread of the disease among mankind —*The Sanitary Record*

SOCIETY NEWS

Tri State Medical Society —The tenth annual meeting of the Tri State Medical Society of Alabama, Georgia and Tennessee will be held at Birmingham Ala, Tuesday, Wednesday and Thursday, Oct 25, 26 and 27, 1898 Frank Trester Smith M D secretary

MISCELLANY

A New Midwife Institute —A midwife institute is to be erected at St Petersburg on an enormous scale to cost nearly two million roubles the present small institute for the purp [illegible] been found inadequate

Congress of Hypnotism —The second international [illegible] of experimental hypnotism is to meet at Paris in August [illegible] immediately after the International Medical Congress [illegible] already well under way, with Dumontpallier president and Berillon secretary general

New Publications —Two new candidates for [illegible] medical profession are the *South African [illegible]* Cape Town which began publication July 15 [illegible] *Digest and Formulary* published at [illegible] at $1 a year, the August issue being Vol [illegible]

Maggots in the Ear —[illegible] woman affected with [illegible] pain One-twenty [illegible] a couple more emerged from the depths when air was blown into the tube —*Deutsch Med Woch*, July 7

Syphilis in Physicians —Brandis has collected ten cases of syphilis in physicians, all infected professionally in the fingers, and all extremely violent cases, only yielding to prolonged and repeated treatment The diagnosis was made very late in each case —*Deutsch Med Woch*, No 21

To Avert Collisions in Fogs —The catastrophe to *La Bourgogne* recalls the suggestion made a while ago by a French physician, that every swift ocean liner should have among its crew a couple of men born blind, as their phenomenally acute hearing would detect the approach of a vessel even in the densest fog

Preservation of Cholera and Typhus Vaccin —Pfeiffer and Marx have established that cholera and typhus vaccin for preventive inoculations can be kept for a period of at least four to ten weeks by the addition of 0 5 per cent phenol, and that the effect of high temperatures, as high as 37 degrees C, does not impair their efficiency —*Deutsche Med Woch*, August 4

Pyonephrosis of Ectopic Kidney —A pyonephrosis of an ectopic kidney in the tissues of the mesentery of the small intestine is the unique observation reported by Dartigues in the *Presse Méd* of June 29, diagnosed a hydatic cyst of the liver Severe hemorrhage followed ablation, controlled by a Mikulicz packed with gauze Patient died following day Tumor first noticed forty years before

Merited Honors —The University of Michigan has made Dr A Jacobi of New York an LL D The University of Edinburgh on July 30 conferred the same degree upon Drs Henry P Bowditch of Boston, William Osler of Baltimore and Roddick of Montreal The last named was President of the British Medical Association which met during the summer of last year, the other two were delegates in attendance

Osteomata of the Frontal Sinuses —Nine deaths followed surgical intervention in the twenty cases on record A S Tauber describes another case in which he removed three from a 32 year old patient, which had developed subsequent to a traumatic injury above the left eye and caused pronounced ocular disturbances He found several polypus growths in the mucosa with the osteomata, one still growing and two dead —*Cbl f Chir*, July 23

Veiling Taste of Boiled Milk —According to Professor Gartner of Vienna the cooked taste of boiled milk can be prevented by keeping it from the contact with the air He accomplishes this by dropping a small piece of paraffin into the milk, which melts at 70 degrees C and spreads out in a thin layer on top of the milk, allowing the escape of gases, while preventing the ingress of air, and forming an air tight, hard cover over the top as it cools —*Munich Med Woch*, July 19

Peculiar Parasitism —Flouquet describes the case of a woman of 53, who never had had a serious illness, but complained of continuous pain in the stomach, with frequent acute exacerbations only relieved by drinking cold water, and terminating by the vomiting of certain vegetable fibers and grains presenting the characteristics of phanerogamia angiosperma growing deprived of light —*Journ des Sc Méd de Lille*, July 16

Bone Elimination per Urethra —The elimination of fragments of bone through the urinary passages is always consecutive to a suppurative ostitic process or traumatism, in some cases after an interval of many years G B Schmidt reports two personal cases and reviews the eleven on record All but two were men In some cases the bone passed through comparatively rapidly, in others it became encrusted and required an operation —*Munich Med Woch*, July 10

Etiology of Caseous Pneumonia.—Auclair has demonstrated that the lesions in this affection are produced by the toxins of the Koch bacillus alone He states that tuberculous pneumonia in all its stages—red hepatisation, gray hepatisation, caseous degeneration—is the work of the Koch bacillus and not of any superadded microbe It is produced by the action of the toxin secreted by the bacillus of human tuberculosis ethero bacilli and also chloroformo bacilli, whose specific action he is the first to establish —*Progrès Méd*, July 23

Gen Leonard Wood and lately Colonel of the Rough Riders, before the war a physician, now military governor of Santiago, is proving himself a sanitarian of no mean capacity He causes the streets of the captured city to be daily flushed by means of a fire engine and gives a wage of a dollar per diem to each sweeper of the streets These "American notions" are not much relished but simply tolerated, inasmuch as appetites are keener for the government rations and labor is now becoming as good a fad as golf

Sterilized Milk for the Infants of Brooklyn —Ex Commissioner of Health Nathan Straus of Manhattan is to give Brooklyn the benefit of his Manhattan plant for the supply of Pasteurized milk He writes to the Board of Health as follows "Although my twelve milk depots in New York City tax my laboratory to very nearly its full capacity, I have decided to place at your disposal, to be distributed as heretofore in Brooklyn, 1000 bottles per day, and as many more as the capacity of my laboratory will permit, until the heated term is over I am ready to begin supplying you at a moment's notice, and it will give me pleasure to have the distribution begun at the earliest hour the necessary arrangements will allow"

Partial Thyroidectomy, according to a report by Booth (*Medical Record*, August 13), in eight cases of Graves' disease cured five One died, and in one there has been no change, while there has been improvement in one where the operation has only been performed six months and a greater improvement with a possible cure may be expected His conclusions are: 1 Cases may be entirely cured by operative measures 2 Pathologic and clinical evidence is in support of the view that the symptom complex is the expression of a primary neurosis multiplied by a secondary glandular intoxication 3 While the ultimate cause of the disease of the gland is still a matter of speculation and a mortality of 7 per cent after operation is reported, we can not justly recommend it as a routine plan of treatment 4 Sudden death may occur in or soon after operation, and has not as yet received a satisfactory explanation

A Lying in Hospital in Moscow, according to Dr F O Donahue (Transactions of the N Y State Medical Association, Vol xiv, 1897), affords accommodations for 4,006 patients This particular institution is for the almost exclusive use of parturients whose children are born out of wedlock In Russia, criminal abortion is unknown, notwithstanding that a high degree of morality does not exist in the sexual relations There, although the regular soldiers are not allowed to marry, the government takes care of their children Foundling hospitals bind out the children to foster parents and the mother in each instance is allowed occasional communication with her child Thus does Russia look after her population, in marked contrast with France, where there has been no increased census during the past decade, and yet no claim for the latter country is urged on the score of morals Practically, therefore, Russia is wiser in her generation

Protection Afforded by the Organs —The *Presse Méd* of June 15 contains the report of experiments by H Roger, who injected 163 rabbits and 16 guinea pigs with various microbes at five different points in the circulation, to study the protection afforded by the liver and other organs He found that the microbes are always arrested in the first capillary network they encounter and that the liver disposes of the anthrax, staphylococcus aureus and oidii introduced into the portal vein, so that they disappear and none can be found after a brief interval, but the reverse is the case with streptococcus and coli bacillus which seem to find the liver a favorable soil and flourish in it, producing extensive lesions The lung opposes a feeble resistance to the anthrax staphylococcus aureus and oidii, but has a marked bactericidal effect on the streptococcus, although not beyond the limit of neutralizing a fatal dose The kidney disposes of the oidium albicans

Forcible Reduction of Deformed Spine—According to Calot this causes such laceration and gaps in the bones and tissues that many think repair would be difficult even in healthy persons, and that it must be adding fuel to the fire in diseased conditions L Wullstein has devised an apparatus that accomplishes the same ultimate results by a slow gradual process instead of Calot's one startling performance The spine is gradually pulled straight by continuous traction, the patient reclining suspended in an iron frame bed with a dynamometer to regulate the traction The face, lower jaw, arms, abdomen, chest and some other parts are left free Radiographs taken before, during and after treatment show the remarkable beneficial action of the various factors employed in the reduction The apparatus is described in full and illustrated in the *Cbl f Chir*, July 9

Suprasymphysar Implantation—Mikulicz recently performed the operation of suprasymphysar implantation of the urethra and penis in the bladder on a young man whose anal and perineal region had been shot away with the upper part of the scrotum The urethra was entirely destroyed above the end of the pars bulbosa The roots of the corpora cavernosa of the penis were severed and the dorsal artery and vein tied, while the corpora cavernosa urethræ was detached whole and lifted into a channel cut for it in the edge of the pubis The bladder was then opened and the urethra in the pars bulbosa sewed into the bladder with a wire suture, and a catheter introduced The patient recovered rapidly He can now—twelve months later—retain his urine two hours, and urinate in a stream A fistula in the perineum is not yet entirely healed, evidently there is some small sequester still left from the original traumatism Otherwise the results are so satisfactory that Mikulicz recommends the method in case of extensive traumatic destruction or neoplasms—*Cbl f Chir*, July 20

Corks and Labels—Eisen (*Journal of Applied Microscopy*, July) uses paraffin to counteract the destruction of labels and corks After the labels have been written and have become perfectly dry, he dips them in melted paraffin long enough to allow the paraffin to soak through and make the paper semi transparent—a few seconds to a minute Taking the label out, the paraffin is drained off and in a few seconds has hardened sufficiently to allow the label to be placed in the bottle with the alcoholic specimens, without deteriorating in color or composition The paraffin prevents the writing being tampered with or other writing added In the case of corks, he places them in the boiling or melted paraffin for a few minutes, when the paraffin will fill up the pores In placing the cork in the bottle he places a string at one side to allow the air to escape, or the cork will not stay in the bottle The corks should be perfectly dry and new After placing the name and number of the specimen on a label, which is stuck on the cork by a couple of pins, he dips the neck of the bottle and cork in the paraffin, hermetically sealing it Bottles treated thus do not require refilling, as the alcohol does not evaporate and the labels remain clean and neat

Rachitic Deformities.—Reginald H Sayre (*Pediatrics*, August 15) believes cod liver oil of benefit in the treatment, except possibly in hot weather He has found phosphorus together with correction in diet, advantageous, and administers it in the form of the elixir of the "National Formulary, devised by Dr Chas Rice of Bellevue He finds that children a year old can take 1/100 grain of phosphorus three times a day with no bad results, and in somewhat older children he has given a grain three times a day with great benefit "Small children with ricketts ought to be kept in the recumbent position and receive daily massage, as the soft tissues of their bodies are as much below the normal tonicity as are their bones In many of these cases slight antero posterior or lateral curvatures of the spine can be detected, and in such cases I know of nothing so useful as the wire cuirass It is far better than confinement in bed, as it permits the child to be carried out doors for fresh air and sunshine—two great aids in cases of malnutrition, whose effect seems to be often overlooked, while too much importance is attached to drugs "

Surgery of the Brain—Baudet reports a case of supposed tumor, patient comatose, operated upon and no lesion found, but the intervention relieved the patient and cured the epileptic attacks, paralysis, etc He reviews four similar cases in literature *Rev Int de Therap*, No 3 Thoel notes a case of pure hyperthermia at 40 degrees C for forty five days, in patient trephined for old fracture of the skull, causing epilepsy He considers it the result of direct irritation of the corpus striatum by the operation, as the latest investigations seem to indicate that the corpus striatum is the chief heat center *Mitt a den Grenzb*, ii, No 1 Braun relates a case of epilepsy cured by extirpation of the center for the left hand, after cyst had been removed and the skull scraped without curing it The thirty cases on record treated by ablation of a motor center have resulted in eight failures, nine improvements and thirteen cured—three over three years—*Deutsche Ztschr f Chir*, Vol xlviii, No 3 Abstracts in *Cbl f Chir*, July 23, and *Munich Med Woch*

Dural Infusion—Jacob (of Leyden's clinic) considers himself justified by the results of his experimental work on dogs, in recommending the utilization of lumbar puncture for direct therapeutic applications in cerebro spinal diseases in man, when the method is perfected by further research No reaction followed injections of 50 c c of ¼ to 1½ per cent carbolized water, nor subarachnoid injections of 35 c c of 1½ per cent solution of chloral hydrate, but severe transient symptoms of endocranial pressure and of intoxication followed the injection of 25 c c of a 4 per cent solution of potassium iodid, which lasted from ten to twenty four hours Pain and agitation also followed the injection of phys solution, although as much as 75 c c of a 1 per cent solution of sodium chlorid could be injected without reaction The iodin is rapidly absorbed and retained by the brain matter and spinal cord, not appearing in the urine until long after the usual interval when administered *per os* The fact that a small amount of a non irritating fluid injected is nearly all absorbed, while a large amount—50 c c—is not, suggests the existence of a system of valves in the subarachnoid spaces His experiments also confirm the theory of the incompressibility of the cerebral substance, the symptoms ascribed to pressure from an increased amount of cephalo rachidian fluid being really due to anæmia caused by the pressure of the fluid on the artery—*Gaz d Osp e d Clin*, from *Berlin Klin Woch*, 21 and 22.

Anomalies of the Bladder From Ovarian Tumors and Fibro Myoma—O Bloch contributes a comprehensive study of this subject to the *Nordisk Med Ark*, 1898, No 2, including a study of the lesions occurring in such cases during laparotomies He has found the bladder abnormally shaped in five out of his [illegible] laparotomies, and has collected 33 other cases of lesions due to the abnormal shapes, which he groups as the 'leaf shape,' the 'hour glass,' the "triangle perpendicular or inclined and the "sausage' The bladder in most of these cases [illegible] only extended up to the umbilicus but its appearance and texture were so altered that its identity was never suspected Careful examination beforehand vigilant attention during the operation, bearing in mind the 38 cases of anomalies recorded and that 14 out of the 33 injured died, the cautious [illegible] tion of a hard catheter, or better still, the injection of boricated water through a soft catheter in case of doubt, will aid in the diagnosis and forestall injury If, when the peritoneum is opened, it does not look normal, leave that point and incise elsewhere Lunggren reports in another issue the case of a twelve year old boy, upon whom he operated on account of a vanishing and recurring tumor, causing intense pain at times The tumor was found to be a second normal bladder, but with no communication with the first An anastomosis was made between the two and all disturbances ceased

Cancer of the Breast —Warren (*Boston Med and Surg Jour* , August 15) tabulates 72 cases covering a period of fifteen years, of which 21 are known to be alive at the present time and 38 dead Of those dead, 2 were from other diseases than cancer and that long after the danger limit had passed Of the 26 living, 3 now have recurrence of the disease and 4 have had, but remain well at present His figures show that the disease is more frequently found in the upper and outer quadrant than in any other quadrant, in the upper oftener than in the lower hemisphere, and in the outer rather than in the inner hemisphere The date of recurrence could not be learned in 9 cases, but in 41 it occurred within three years in 37, between three and four years in 2, and between five and nine years in 2 Considering three years as the limit, as a gage of the success of the operation there are 17 cases Two of these are dead, "one dying, ten years after the operation of apoplexy, and one dying of sporadic cholera six years after the operation" , 3 had recurrences, from which they are at present well , one of them three years, one four years and one ten years after the operation " He considers retraction of the nipple an unreliable symptom, it being present in only 13 of the cases, and there may be extensive disease of the breast without nipple retraction The dimplings of the skin over the nodule are more significant and in marked contrast to the protrusion of the growth, in the case of a benign tumor or cyst above the surface when the patient is in the recumbent posture "

Experiments Regarding the "Setting" of Plaster of Paris —J A Belcher reports (*Treatment*) the results of experiments undertaken to determine the effects of various agents on the "setting" of plaster of Paris "Two drachms of plaster, mixed with one drachm of a 5 per cent solution of sodium chlorid, hardened in two minutes Mixed with one drachm of a 5 per cent solution of sugar, it hardened in three minutes and a half Mixed with one drachm of a 1 per cent sodium chlorid solution, it hardened in five minutes Mixed with one drachm of an 0 5 per cent sodium chlorid solution, it hardened in five minutes Mixed with one drachm of a 5 per cent calcium chlorid solution, it hardened in six minutes and a half Mixed with one drachm of tap water, it hardened in nine minutes Mixed with one drachm of distilled water, it hardened in nine minutes Mixed with one drachm of saturated solution of sodium chlorid, it hardened in eighteen minutes Mixed with one drachm of a 5 per cent solution of glycerin in distilled water, it hardened in nineteen minutes Mixed with one drachm of a 5 per cent solution of white of egg in distilled water, it hardened in twenty minutes Mixed with one drachm of a 10 per cent solution of white of egg in distilled water, it hardened in twenty five minutes Mixed with one drachm of a 10 per cent solution of glycerin in distilled water, it hardened in thirty five minutes Mixed with one drachm of a 25 per cent solution of glycerin in distilled water, it hardened in sixty minutes" The figures tell, says Belcher, their own tale, and show that where it is of importance to make plaster of Paris set rapidly it should be mixed with a five per cent solution of common salt and this may be made roughly by adding a tablespoonful of salt to a pint of water —*Scientific American*, August 13

Gloves in Surgery —McBurney (*Annals of Surgery* for July) gives a detailed report of the results which have followed in his surgical work since his adoption of the use of india rubber gloves in all operations, last October The fact that the glove can be boiled and so made absolutely sterile is a matter of especial moment, and being non absorbent, they remain sterile throughout the operation By their use, no matter to what previous use the operator's hands may have been put, he may begin his operation without dread that they may cause infection, and may even operate with a suppurating lesion on his own hand, with impunity The rubber gloves add greatly to the operator's comfort, and avoid loss of time and the annoyance caused by a prolonged effort to sterilize his hands He simply washes his hands in soap and water and puts on his sterilized gloves, and when he removes his gloves the hands are perfectly clean and soft and the nails free from any discoloration, while no cracking occurs By them there is always protection against infection The operator soon accustoms himself to the use of the gloves, being able to thread needles, handle instruments, tie ligatures, as well and rapidly as without them As to the sense of touch, he does not find it blunted by the use of gloves Probably the fact that the hands are never hard and callous or roughened by irritating disinfectants accounts somewhat for this acute sense of touch He boils the gloves fifteen minutes in a 1 per cent soda solution, after first washing them thoroughly in soap and hot water, to which a little aqua ammoniæ has been added From the boiling solution they are removed by sterilized forceps and placed on a sterilized towel, which is then folded over them and not opened until the individual who wishes to wear the gloves is ready to put them on A fresh pair is afforded for the operator, assistants and nurses in every operation If the hands are rubbed with dry, sterilized starch, gloves damp in the interior, can be quite easily drawn on, as can wet gloves, if the hands are moistened with glycerin The inexpensiveness of the gloves is a favorable factor, although they last from four to six weeks under daily operating (*Vide* JOURNAL for November 1897, p 1060, March 19, 1898, p 672, June 25, 1898, p 1522)

Legal Restraint of Marriages —Russell recently presented "A Plea for Posterity," before the Washington County (Pa) Medical Society (*Phil Med Jour* , August 27), a paper in which he cites statistics of many present sociologic conditions and makes a plea for legal restraint of marriage among certain classes He says "Some would deny the right of existence, claiming that this right has been forfeited by the inferior mental, moral, or physical status of himself or his ancestors As the existing order of things involves the visiting of the father's sins upon the children, even the most conservative must admit that the *defective has no right, either natural, moral, or legal, to produce a posterity cursed with his affliction, to be a danger and a burden to your posterity and mine* There are, however other fountains feeding this stream of corruption, and we can never hope to stay the tide until they are controlled through heredity itself, by *denying* to the defective the right to propagate his tainted species These founts are alcoholism syphilis, tuberculosis, epilepsy, insanity, and gonorrhea " He then considers these several "founts" in detail and concludes with a bill prepared by him for the Legislature of Pennsylvania, with a view to securing such State laws as will prevent the issuing of a marriage license to any person "contemplating marriage unless he or she shall have received from the persons so appointed a certificate setting forth that such applicants are free from the following diseases, any of which shall be deemed sufficient cause for refusing a license Syphilis, gonorrhea, dipsomania, hereditary insanity, true insanity, or insanity resulting from vice, epilepsy, hereditary consumption or tuberculosis " He says that the State of Texas already prohibits the marriage of epileptics , Massachusetts the epileptic, alcoholic and syphilitic, while Ohio has a similar law to the one proposed, and the same bill has been introduced in the Maryland Legislature

Sense of Feeling in a Lost Limb—Dr Hervie A Dobson of Washington writes of his own experiences following an amputation of his left leg He states that the limb was amputated at the middle third of the thigh over thirty four years ago The sensation of knee, foot, heel, hollow of foot, and toes being present is stronger than in the other limb In fact, when at rest one is not conscious of any sensation in his limbs in a state of health, but in the stump the sensation is ever there, sometimes painfully so This is no hallucination, but is due to anatomic and physiologic reasons "Nerves of sensation pass out from the spinal column to every part of the surface of the body, each nerve having its own particular part to supply and each conveying to the nerve center knowledge that its terminal point is being irritated Thus, a nerve terminating in the end of the big toe, no matter where it is irritated between the nerve center and the end of the toe, will say to the nerve center, 'The end of the big toe is touched or hurt' " Just before storms, when the barometric pressure is light, the air within the tissues expands and presses on these nerve ends, causing intense pain sometimes, and there is no relief but to reamputate the limb and see that the nerves are not caught in the cicatrix It is generally the stump that perished away and becomes small that gives the most annoyance He adds, "My leg was amputated in such a position that when I stand it seems to be flexed with the foot behind me, and I have often tried to remove it from the way of persons passing and have even tried to put it out to prevent the slamming of a door behind me, and much to my surprise the door did not stop I have had many a fall in trying to walk, when springing up quickly I tried to put my foot to the floor I have seen comrades whose legs were amputated below the knee, when on crutches, try to put the foot down and so come heavily on the end of the stump As I grow older there is a sense of shortening in the leg, the foot seeming to come nearer the body If I move the muscles of the stump, as in the effort to extend the knee, a sensation of great heat occurs at once in the stump, when it may be almost frozen with cold Dry heat sometimes relieves pain in these stumps, but nothing will relieve permanently except an operation, as above stated "—*Literary Digest*

Mydrin, the New Mydriatic—Dr S Snell writes to the London *Lancet*, July 16, saying that he desires to confirm "my observations on this mydriatic in the Clinical Journal in 1895, which were, I think, the first published in this country I would like to add that I again refer to the value of mydrin in my volume on the 'Examination of the Eye' (Pentland), published this year My object in writing now is to reiterate my opinion of the efficacy of mydrin as a rapid pupil dilator without affecting the accommodation, and the effects of which quickly pass off, features marking it as specially adapted for producing mydriasis for ophthalmoscopic purposes The present price of the drug is, however, almost prohibitive of its use I understand that it still costs something like $6 25 a drachm, but of course a demand for it would soon bring about a reduction in price It is further to be desired that some firm should furnish the drug in the form of gelatin discs "

Washington

Report of the Health Officer.—The report of the Health Officer for the week ended August 27 shows the total number of deaths to have been 100, of which 66 were white and 34 colored The principal causes of death were Nervous diseases 16, circulatory 7, intestinal 6, genito urinary 8, diphtheria 2 typhoid fever 4 There were 36 cases of scarlet fever and 25 cases of diphtheria under treatment at the close of the report

To Improve the Water Supply —The last apppropriation bill included an item providing for the water supply of the District under the chief of Engineers, as follows "To enable the proper officer of the Government having charge of the Washington aqueduct and water supply to the city of Washington, to make an investigation into the feasibility and propriety of filtering the water supply of Washington, and to submit to Congress a full and detailed report thereon, and to meet all necessary expense of said investigation $3000 Said report shall be accompanied by a detailed estimate of the cost of the work required and in making the investigation, and in the preparation of this report, the Chief of Engineers, U S A shall be associated with the proper officer of the government in charge of the aqueduct as consulting engineer Chief Engineer Wilson has arranged through the Secretaries of War and State to be supplied with the history and latest information concerning the filtration systems adopted by the principal European cities The Secretary of State has called on the consuls of the prominent European cities for all material data relating to the operation of their systems of water supply The unfinished and abandoned water tunnel and new reservoir of the city is to be repaired and put in operation

To Inspect Camp Wikoff —Dr H L E Johnson, one of the Citizens' Committee has gone to Camp Wikoff, Montauk Point, L I, to inspect the sanitary conditions of the camp and the medical and commissary care of the District Volunteers

Louisville

Hospital Changes —Drs T J Poteet and G B Jenkins assumed places on the resident medical staff of the Louisville City Hospital, September 1 Dr Poteet is the second honor man from the Kentucky School of Medicine, and Dr Jenkins the first honor man from the Hospital College of Medicine Dr Sidney J Meyer, who received the first honor from the Kentucky School, refused the appointment to the Hospital to accept the position as Acting Assistant Physician in the Army Drs Ross and Forsyth are succeeded as internes Dr Ross goes to Leavenworth, Ind, and Dr Forsyth to Harrodsburg, Ky, to practice

School —The Louisville School Board at a recent meeting decided that the public schools would not begin their sessions until September 15, instead of the first Monday, on account of the extremely hot weather Last year the severest heat of the season occurred during the first sixteen days, when the thermometer showed a minimum of 93 and a maximum of 100 degrees

Smallpox —The State Board of Health has raised the quarantine of Jackson County, as all smallpox cases are under control and no new ones have developed The quarantine was raised upon the recommendation of Dr M R Gibson of that county, it having been left to his discretion by the State Board at a recent meeting

Muench —Dr Albert Muench is lying quite ill of typhoid fever at his residence in this city His assistant, Dr Allan McNally, was prostrated by the heat on the street but has again resumed his practice

Nurses —Kentucky has furnished a large number of nurses as volunteers in the Army hospital, among whom may be mentioned Misses Caroline Diehl, Marie Lustnauer Tweed, Elizabeth Hilf and Mary C Laughlin

Coroner —The Coroner of Jefferson County, Dr H M McCullough has submitted his report of inquests held in the county from January to July Total number of inquests 290 males 188, females, 102, white, 167, colored 133, deaths due to homicide 22, suicides 20, accidental drowning 16 railroad accidents, 13, accidental poisoning 4 wagon accidents 4, street-car accidents 2 sunstroke 1 lightning 1 This shows about the same proportion of deaths due to [illegible] as given by other statistics

Health Officer's Report —Health Officer Allen has [illegible] issued his yearly report which contains some interesting reading He calls attention to the ordinances which have been put in force since his incumbency among which may be mentioned the following Registration of birth and [illegible] regulating the burial of the dead, creating an embalming board to pass upon the qualifications of embalmers, regulating the sale of milk, empowering the Health Officer to abate nuisances, *giving right of way to physicians*, providing against overcrowding in boarding houses and tenements A number of recommendations are made, which, if the Board of Safety and Council will grant, will place the Health Department upon a sound footing and great good can be accomplished He requests an increase of the Health Department force, the appointment of Health Inspectors for each ward in the city, they to assume the duties of inspection now performed by the police, a veterinarian as live stock inspector, a competent chemist, a milk and food inspector, and additional clerical assistance in the health office An increase in the appropriation is asked, double of that for 1897 It is recommended that *consumption*, whooping cough and *typhoid* fever be included among the diseases which have now to be reported to the department He recommends the establishment of public baths in those districts where the poorer tenements are located Not much can be expected from city taxes for the accomplishment of this, but it is to be hoped that private philanthropy will actuate the establishment of this needed reform It is *recommended that all school children be vaccinated* annually, regardless of the presence or absence of small pox The teaching of sanitary science in the schools is recommended The public drainage is declared inadequate, and an addition to the eighty five miles of sewerage is asked for Cremation of public garbage is recommended and urged He favors an insane ward at the city hospital, which can be accomplished as soon as *the colored patients are moved to the* building now occupied as a male high school, shortly to be vacated, this insane ward to be used as a temporary detention ward for the insane or suspects

KENTUCKY SCHOOL —An injunction has been granted Drs S E Woody and C W Kelly against Dr W H Wathen, preventing him from in any way claiming he is Dean of the Kentucky School, and against Drs Sam Cochran and Arthur Boyd from claiming they are Professors in the School This disposes of the contention in regard to the mail, it being the order of court that all mail addressed to Dr S E Woody, Dean, or Dr W H Wathen, Dean, be delivered to Dr Woody

Philadelphia

PENNSYLVANIA HOSPITAL —The 147th annual report of the above hospital contains statistics of interest to all medical men, especially to those connected with institutions *of* similar scope and objects Since the foundation of the hospital in 1751, there have been admitted to beds in the wards 140,144 patients, of which number 96,369 were poor persons supported at the expense of the institution During the past year there were treated 3241 patients in, the wards and 13,535 in the out patient department The average cost per day for each in patient was $1 21, and average expense to the hospital of each out patient, $0 48 The average cost of each in patient compares most favorably with *that of many other large hospitals* in which the average expense ranges from $1 40 to $2 50 During the past year there were 23 amputations and 83 abdominal sections Herniotomy was performed 25 times In the Department for the Insane, the patients treated numbered 584, 266 men, and 318 women, 53 recovered, 30 improved, and 18 remained stationary Regarding the "causes" of insanity since the opening *of* the new hospital for insane in 1841, the report says "Of 10,888 admissions 55 per cent of the causes might be placed in the preventable *division*, and 45 per cent in the non preventable It may be affirmed of the whole number that more than 50 per cent of the admissions acquired their mental disease from some ills of life *not transmissible* and but a small proportion can be ascribed to heredity" During the past year the Hospital received in gifts, legacies, etc, the sum of $33,808 60, and in addition is advised of legacies amounting *to* $110,000 *The total* receipts for the year just closed were $453,650 45, and the total expense $398,275 87, leaving a net cash balance on hand of $55,384 58

HOSPITAL TRAINS IN VOGUE —As the result of the recent successful trip made by the city hospital train which brought home from the different army camps soldiers sick with typhoid fever, the movement has resulted in stirring up the city and State officials *Governor Hastings sanctioned* the movement and gave his support for the equipment of another train to go to the *front* and bring home those patients too ill to travel otherwise The Medico Chirurgical Hospital has also equipped a train of its own and sent physicians and nurses along, and it is believed that before many days every sick soldier will be cared for in well equipped hospitals Of those first brought home, all have improved, *some so much that they have already been* discharged cured

MORTALITY STATISTICS —For the week ending at noon, August 27, there were 429 deaths reported, a decrease of 17 over last week and an increase of 42 over the corresponding period of last year The following are some of the causes Apoplexy, 17, Bright's disease, 11, cancer, 8, cholera infantum, 19, consumption, 54, croup, 4, heart disease, 21, dysentery, 5, inanition, 17, marasmus, 36, old age, 13, suicide, 3, sunstroke, 6, uremia, 1

INFECTIOUS DISEASES —This week Diphtheria, 56 cases 18 deaths, scarlet fever, 17 cases, 2 deaths, typhoid fever, 118 cases, 9 deaths Last week Diphtheria, 45 cases, 16 deaths, scarlet fever, 10 cases, 1 death, typhoid fever, 78 cases, 8 deaths This rapid increase in typhoid fever is due to the return of the soldiers, brought to the city from army camps

PRESERVATION OF MILK —In an interview, Dr Henry Leffman, City Chemist, recently stated that there was a rapid increase in the rôle of salicylic acid as a preservative of milk and other articles of food Owing to this cause much harm is being done, as the drug is especially dangerous to children The artificial form used by brewers in the preparation of bottled beers is poisonous and should be prohibited Dr Leffman was of the opinion that prompt measures should be enacted for the suppression of the evil

"TYPHO MALARIAL" FEVER —Dr S Solis Cohen, Medical Chief of the Jefferson Medical College Hospital, states that the fever of soldier patients was being examined thoroughly in suspected cases in order to find out whether or not the cases *of typhoid fever were also infected with the plasmodium malaria* In an interview, Dr Cohen criticises the proper authorities quite severely for allowing preventable diseases to spread with such rapidity among the soldiers

DEATH FROM CHLOROFORM —As the result of a coroner's inquest upon the case of Catharine Montague, 36 years of age, who died at the Polyclinic Hospital of Philadelphia, the jury pronounced the death due to chloroform administered prior to a surgical operation

Medical and Hospital Service in Cuba —The following extracts from a report by First Lieut Guy C M Godfrey, Assistant Surgeon, U S A, will convey some idea of the difficulties *contended* with, and *the efficiency of* the medical and hospital service at the front

SANTIAGO DE CUBA, July 29, 1898

To the Surgeon General, U S Army, Washington, D C
(Through proper channels)

Sir —As commanding officer of the Hospital Corps Company of the First Division, Fifth Army Corps, I have the honor to submit the following report

This company was organized at Tampa, Fla, June 5, 1898, just two days previous to the departure of the troops of the First Division for the transports, at Port Tampa, Fla On the day of organization the strength of the company was eighteen privates *No non commissioned officer was assigned to it until* June 7, 1898, when Acting Hospital Steward McGuire reported *for duty* He was at once assigned as first sergeant of the company, which place he has held up to the present date A cook and an assistant cook, orderlies for the medical officers and a clerk were at once detailed

When the order came to move, the men of the company per formed the work necessary thereto, and the enthusiasm and *esprit du corps* with which they labored added greatly to the celerity and facility with which the task was accomplished The personnel and supplies of the division hospital, as well as the hospital company, was placed on board the transport *San tiago*, and arrived off the coast of Cuba, near Santiago, June 30, 1898 The day before landing, all of the material was brought up from the hold by the men of the company, and stored on the main deck of the ship near the forward starboard port This was done by direction of Major W W Wood, chief surgeon of this division, and proved a wise and efficient measure

We landed on June 15 at Siboney, Cuba, and pitched camp on the beach On this day thirteen of the privates of the hospital corps of the Seventy first New York Vols joined the company During the night of June 25, Acting Hospital Steward McGuire and five of the men worked all night unloading the material for the hospital, and storing it upon the beach under canvas This was done by using small boats drawn by steam launches, and, owing to the high swell, it was at times quite dangerous I remember several occasions where the men narrowly escaped injury from falling boxes

On June 26 the men were given a short drill to perfect organization Hurried preparations were made for a forward movement, and as absolutely no transportation could be obtained from the quartermaster's department, these preparations consisted principally in selecting such necessary dressings and drugs as the men could carry on their backs, and litters On June 27 the First Division moved forward, and the Hospital Company followed in rear of the Third Brigade, taking the road toward Seville Owing to the possibility of an immediate skirmish or battle, none of the medical officers rode their horses, but made pack mules of them, and carried as large a number of dressings, etc , as they could The divisions camped in columns of brigades, and the Hospital Company and division hospital pitched camp near the headquarters of the division commander On the following morning twenty men, with the steward and two medical officers, returned to Siboney, and brought up four litters, and as many medical supplies as possible, returning about 2 o'clock P M After a soaking rain the company broke camp, and was ordered to move forward two miles This they did, marching over a rocky, yet muddy road carrying the hospital supplies with them They pitched their shelter tents on the soaking ground, while the officers, who had no shelter, slept in the open air, exposed to dampness and poisoning On June 29 the company moved forward a quarter of a mile farther to a beautiful spot with the Aguadores River on one side and the Siboney road on the other Here on the 29th the division hospital was established, and here it remained all through the terrible carnage that followed On this day six wagon loads of our supplies were brought up from the beach at Siboney, and tent flies were pitched and everything arranged for the coming battle On June 30 the work of establishing the division hospital continued, and more of our supplies were brought from Siboney

On the evening of July 1, the writer rode in the direction of the firing toward El Caney, and while searching for an ambulance, rode to the extreme right and visited the firing line of the Twelfth Infantry He then returned and reported to Major Wood, who directed an ambulance to be at once sent in that direction Owing to the very small number of hospital corps men present with the division, and as the number of ambulances for the entire army was limited to three, it was impossible to expect them to convey the total number of wounded from the collecting stations to the First Division hospital It was soon apparent that the entire force of the hospital corps would have to be used to man the hospitals, but about noon Acting Hospital Steward McGuire, two litter squads and an ambulance went forward up the San Juan road As the Spanish shrapnel were bursting around the battery on El Paso hill, near the road it was not deemed prudent to take the ambulance beyond that point There it remained while the two litter squads pushed forward up the San Juan road One wounded man was found, who was not able to walk, about 400 yards before reaching the farthest crossing of the Aguadores River He was at once dressed and conveyed to the rear by a litter squad The other litter and the steward advanced about four hundred yards farther, to the east bank of the Aguadores, and there found a wounded man who could not walk At this time the Sixth and the Sixteenth Infantry were immediately in front and were making their advance toward San Juan hill It can therefore be seen that the hospital litter squad in rear was under the hottest kind of fire, and the bullets were cutting the leaves all around, but not one of these men faltered, or showed the least sign of fear

At this time the wounded were coming back in a constant stream, and such as needed stimulation or dressing were at once attended to by the roadside Many of them returned alone, others walked, supported by the arm of some comrade, while the more seriously wounded were borne upon litters of various kinds A few of those who returned had not received medical attention, but the majority of them were dressed with first-aid packages by the regimental surgeons and their hospital corps men

At about 1 P M Major Valery Havard, chief surgeon of the cavalry division, established an ambulance station on the east bank of the Aguadores near El Paso At this station many dressings were readjusted and a few patients were dressed for the first time Stimulants, medicines and dressings constituted the stock at this station, which was about a mile in advance of the First Division hospital No point farther to the front was safe from the enemy's fire The ambulances were worked constantly, and, considering their number, did remarkably well Late in the afternoon ambulances were taken forward to near the farthest crossing of the Aguadores but it was rather dangerous at all times, as the enemy kept the San Juan road enfiladed all day long It was also very dangerous on account of Spanish guerillas, who were located in trees overlooking the road Several men carrying wounded were shot, and, indeed, in a few cases the patients themselves were hit

Later in the afternoon a dressing station was established at the farthest point where the San Juan road crossed the Aguadores At this place there was a vertical bank about four feet high, beneath which was a gravel beach Here a certain amount of shelter was obtained, but bullets frequently cut through the bushes, or splashed up the water in the creek At one time it was enfiladed by Spanish sharpshooters in trees up the creek Several horses were killed here, but no patients, surgeons or attendants were injured that afternoon It was at this place on the following morning that Dr Danforth was killed Late in the afternoon several escort wagons, having carried ammunition to the front, were turned over to the writer by Lieutenant J D Miley, General Shafter's aide de camp These were taken to this station and filled with the wounded, who were transported to the First Division hospital Empty army wagons that could be found were used for this purpose, and the wounded kept coming into the hospital all night On the following morning an ambulance and two wagons were taken to the dressing station just described, and the wounded brought in, among them being Acting Assistant Surgeon Danforth, who was shot through the head Major S Q Robinson had assumed command of this station on the previous afternoon, but at this time he, with Captain W D McCaw, rejoined their regiments, and left the station in charge of Captain Paul Newgarden Major V Havard arrived later and established an ambulance station at this point, which was then comparatively safe It was customary during the battle for the writer to send litters and dressings to the front in the empty ambulances During and after the battle the men of the hospital corps company did much of the work in the First Division hospital They assisted in operations helped in applying dressings, made soup and coffee, carried patients to and from the operating tables, and acted as nurses to the wounded With but few exceptions, they worked all day, all night, all the following day, and most of the next night They were assisted by members of the bands of the regiments and by some of the hospital corps men of the regiments

During the battle the first aid work was very effective, and was done mostly by regimental surgeons and their hospital squads Many dressings were applied by the line officers, by soldiers on the firing line and in some instances by the wounded men themselves Major S Q Robinson who commanded the Aguadores dressing station on July 1, says that only about ten patients came there who had not been dressed by first aid packets Words can hardly express the appreciation which the officers and men of the line have for the first aid packets They realize now as never before the value and importance of instruction in first aid work The very small number of suppurating wounds can readily be accounted for prompt applications of these dressings

Pyramidal Bandages for Postpartum Hemorrhages — A very simple and easy method of arresting hemorrhage has been devised by E Iava, who hopes to see it generally adopted by obstetricians and midwives The uterus is first cleared of clots by compression from without After retraction the fundus is pressed downward toward the symphysis until the posterior surface is on top, which is easily accomplished in the relaxed post partum condition Linen cloths are then placed directly over the uterus in such a way that they form an inverted pyramid, pointing toward the spine, bound tight with a bandage around the body The external surface of the uterus and the nerve terminals are stimulated, while there is no chance for infection as all the manipulations are external —*Arch di Ostet e Ginec*, May

THE PUBLIC SERVICE

The Surgeon General of the Army and the American National Red Cross —Owing to the pressure of my official duties I have not heretofore felt justified in taking the time to make an explanation with reference to my attitude toward the American National Red Cross

It has been repeatedly charged in the newspapers that I am hostile to this organization and have refused to accept its assistance in the care of our sick and wounded soldiers and that as a result of this refusal there has been unnecessary suffering

These charges are without foundation, except in so far as I objected to the sending of female nurses with troops in the field engaged in active operations We have a Red Cross Hospital Corps in the army, of enlisted men whose duty it is to render first aid to the wounded upon the field of battle and to care for the sick in our division field hospitals, and I have been of the opinion that female nurses would be an incumbrance to troops during active operations, but so soon as serious sickness developed in our camps and it became necessary to treat typhoid fever cases in our field hospitals, I gladly accepted the services of trained female nurses for the division field hospitals and in our general hospitals we have employed them from the first The general testimony from the surgeons in charge of these hospitals has been that their services have been of great value Very many of these trained nurses have been obtained through the Red Cross Society for the Maintenance of Trained Nurses, Auxiliary No 3, and I desire to express my high appreciation of the valuable services rendered to the Medical Department of the Army by this organization

My attitude toward relief organization is shown by an endorsement dated May 5 upon a letter addressed by Rev Henry C McCook of Philadelphia to the President and referred to me for remark

"May 5, 1898 Respectfully returned to the Adjutant General of the Army

The plan proposed for the organization of a relief association seems to have been well considered and the object in view will commend itself to every patriotic citizen But it is a question whether the President should give special privileges to any particular organization Other prominent individuals in different parts of the country may be organizing for the same purpose One such proposition has come to me from Chicago While I approve in a general way of organization for the relief work proposed, it appears to me that it will be best not to give, in advance, exclusive privileges to any one particular organization In case of need assistance should be accepted from any organization prepared to give it"

This has been my guiding principle throughout, that relief when needed should be promptly accepted without reference to the source from which it comes The relief afforded by the National Red Cross at Siboney was promptly accepted by the surgeons on the spot, but it is evident that it was entirely inadequate to meet the emergency

A committee of the American National Red Cross Association called upon me in my office in Washington some time in advance of the landing of our troops in Santiago, making an offer of assistance I received them most courteously and advised them to use their resources in fitting up a hospital ship, telling them that a hospital ship was then being fitted up for the use of the Medical Department, but that it was not at all improbable that an emergency would arise which would overtax our resources, and that in such an event a hospital ship properly equipped, having on board a corps of doctors and nurses would be a most valuable auxiliary

Furthermore, the American National Red Cross Association has had full authority to send agents and supplies to all our camps since June 9, 1898, and if there has been any suffering for want of proper supplies they must share the responsibility with the Medical Department of the Army for such suffering

The following letter was sent by me to every chief surgeon of a department or independent army in the field on June 9, 1898

"The Secretary of War has approved of the following proposition made by the American National Red Cross Association, and the chief surgeons of army corps and divisions will co operate with the authorized agents of this Association for the purpose indicated

"'We can put any desired amount of hospital supplies—ice, malted milk, condensed milk, Mellin's food, etc —into any of the volunteer camps in a few hours Will you be kind enough to bring this letter to the attention of Secretary Alger and ask him if there is any objection to our appointing a Red Cross representative to report to the commanding officer and the chief surgeons in every camp, confer with them as to their immediate needs, and, if anything of any kind is wanting, open there a Red Cross station and send in supplies? We can do this, not in a few weeks or a few days, but in a few hours, and can furnish any quantity of any desired luxury or delicacy for hospital use We hereby tender our aid and put our organization at the War Department's service for co operation in this field'"

To show my cordial relations with the National Red Cross relief committee I venture to quote from a letter of August 11, received by me from Mr Cleveland H Dodge, chairman of the supply committee Mr Dodge says

"I want again to assure you personally, and on behalf of our committee, of our earnest desire to assist you in every possible way and to thank you for calling upon us so frankly"

In a recent letter from Mrs Winthrop Cowdin, Vice President of the Red Cross Society for Maintenance of Trained Nurses, she says

"We greatly appreciate your courtesy to us and feel most grateful to have been permitted to serve you in any way"

GEO V STERNBERG, Surgeon General, U S A

CHANGE OF ADDRESS

Burns E J, from Gidding Tex to Sweeney Okla Ter
Carveth, C B from West Superior, Wis, to Port Hope, Ont
Carter G D, from New London, to Saverton Mo
Hertel L L, from 2212 Dearborn Street to 3000 Groveland Avenue, Chicago, Ill
Klein H, from 791 So Halsted Street to German Hospital Chicago, Ill
Lamb D H from Owosso, Mich, to U S Gen'l Hospital, Ft. Meyer, Va
McCurdy, J G, from 136 Park Avenue to 2069 W Congress Street, Chicago, Ill
McDonald, H N from 411 9th Avenue S E to 901 4th Street S E Minneapolis Minn
Russell, R, from Knoxville to Glen Mary Tenn
Roberts, U R from Littleton to 3206 Williams Street Denver, Colo
Spangenthal J, from 108 E Genesee Street to 631 Main Street Buffalo, N Y
Smith C B, from Lovington to Sullivan Ill
Sheldon J G from New Haven Ia to 201 So Lincoln Street Chicago
Tyler J A from 268 N Champion Avenue to 229 N Champion Avenue, Columbus, Ohio
Wright, John, from Clinton, Ill to Roseburg Ore

LETTERS RECEIVED

American Sports Pub Co, New York N Y, Atkinson, Wm B, (2) Philadelphia Pa
Brown F F New York, N Y Burns, H H Athol, Mass
Clark Dan'l, Toronto Can, Cheney J V, Chicago Ill
David E L Louisville Ky
Graham, Mrs S Butler Pa
Hall, H C Detroit Mich Hektoen, L, Chicago Ill, Houghton, Mifflin & Co, Boston Mass
Jackson J Arthur Dansville, N Y
Kiernan J G, Chicago Ill
Merrill, Willard Milwaukee Wis Munro A T, Hanley Falls Minn
Mattison J B, Brooklyn, N Y, Mann, F W, Detroit Mich Manitou Mineral Water Co, Manitou Colo
New York Condensed Milk Co, New York N Y Newell & McPhail, Osseo Wis, Newell & Heldman Chicago, Ill Newberry Library Chicago, Ill
Phenique Chemical Co St Louis, Mo Phillips Chemical Co The Chas H New York N Y Pritchard, J M Yale Ky
Reed R Harvey Rock Springs Wyo
Senn, N, Camp Wikoff Montauk Point, N Y, Schuster, B L, Milwaukee Wis, Stringfield, C P, Chicago Ill Subscription News Co, Chicago, Ill
Thompson, J A., Cincinnati Ohio
Wilkes, B A St Louis, Mo Winter, J H, Chillicothe Mo

The Journal of the
American Medical Association

VOL XXXI CHICAGO, ILLINOIS, SEPTEMBER 17, 1898 No 12

ADDRESS

ON THE PREDOMINANCE OF GERMAN INFLUENCE IN MODERN MEDICINE AND SURGERY

Address of the Chairman of the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY H GIFFORD, M D
OMAHA

That the Germans do take a disproportionately large part in the furtherance of medical science will not, I think, be questioned by those who have attempted to look up any medical subject thoroughly In one ophthalmologic monograph, by an American, which I happen to have at hand, there are quoted sixty-five papers by Germans (including Austro-Germans) as against forty-two from other nations, while in another, also by an American, but more strictly concerned in original research, of twenty-two authors quoted, twenty are Germans I do not mean to say that such figures give a fair idea of the actual share in medical progress taken by non-German nations, for a large part of such progress is the result, not of original research, in the ordinary sense of the term, but of clinical acumen and inventive talent, qualities in which the French and English speaking nations are certainly in no way inferior to the German But when one examines the solid basis of facts upon which modern medicine rests, facts dug out of Nature's storehouse by hard, patient work, the preponderance of German contributions is overwhelming In looking for an explanation of this fact it can not be claimed that it is due to any marked superiority of the German intellect In the roll call of the highest types of scientific ability, France and the English speaking nations certainly do not suffer by comparison The race which has produced Newton, Dalton, Darwin, Thompson and Edison certainly anks second to none in intellectual vigor And while not for a moment denying that Germany, too, has produced many first class scientific minds, it is plain I think, that the great bulk of work to which she owes her medical prominence is the work which the majority of well-educated, intelligent medical men in his, or any civilized country, could do if they would devote the necessary time and energy to it In other words, it is work which they would do if they only had sufficient incentive

Now, admitting that the Germans may have an special genius for painstaking accurate, detail work, he difference in the amount of their output in medicine, as compared with England or this country is ertainly far greater than any race difference will ccount for It can only be explained by the greater ncentive furnished by the German environment nd of this environment the prime factor in the stimulation of scientific research is the plan pursued in the appointment of university professors We are apt to think of the Germans as a nation of savants, but the rank and file of medical men in Germany do little if any more research work than is done by the average in this country The great part is done by the younger professors or those who hope to become such A considerable amount of first-class work is done by candidates for the doctor's degree still more by the assistants, but most of all by the privat-docenten, young men who for the best years of their lives defer matrimony and financial advancement and devote their whole energy to original work, each one knowing that with good ability, if he is industrious and sincere, he is sure to be rewarded in time by a professorship or some other important position[1] If the first position is in one of the smaller universities, the young professor, once installed, renews his work knowing that only by so doing can he hope for a call to a larger field Called from Giessen, Marburg or Erlangen to Breslau, Halle or Munich, some men find their ambition satisfied, relax their efforts and are but seldom heard from again, but a fair proportion, either from habit or love of the work, or in the hope that on the rare occasions of vacancies at Berlin or Vienna they will be the chosen ones, keep hard at work adding to the magnificent pile of German learning Of the numbers who start in the race for academic preferment, many must fall behind, but all are encouraged, at the outset, by the knowledge that the work which they do, even if it fail to be rewarded with a professorship, will be the best passport to one of the numerous positions at the head of hospitals or in public health departments, these institutions acting thus as powerful auxiliaries of the universities in the work of inciting to original research

The most important differences between Germany and America in the matter of medical appointments are the much higher standard of the Germans and the custom of their university faculties of filling vacancies from other institutions than their own Much has recently been done in this country toward elevating the standard for admission to the medical profession, but until much more is done to raise the requirements for medical professorships, anything like an approach to Germany's scientific output is entirely out of the question I think it is no exaggeration to say, leaving the smaller institutions out of the question, that in the best twenty of our medical schools more than one half of the professors, taken in the aggregate, have *secured* their positions for considerations which in Germany would hardly entitle them to the rank of privat docent To be sure, the best men as a rule, get the best places to be had in the city in which they live and while in many instances the men thus obtained are as good as could be obtained anywhere in the world, the fact remains that even in our larger medical centers, while the average of ability, is high, that of scientific achievement is not This is partly because the appointments being made, in the great majority of cases, from the local profession, various influences, social, political and institutional, aside from the scientific attainments of the candidates, are bound to enter into the case In the German university, on the contrary, a most important and distinctive feature is the general rule to call some one from another institution or town when a vacancy occurs This not only allows a much more unbiased judgment of the merits of the men under consideration than is possible where the plan common in this country is followed, but also acts as a powerful incentive to original work throughout the entire country

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[1] Th[illegible] of course does not apply to [illegible] larger [illegible] who do little [illegible] which it gives with the laity

It may be questioned whether the German system could be made to work in this country without a decided change in the ideals of a large part of our medical men Whether, for instance, a man who had built up a lucrative practice in one of the smaller cities would feel tempted to give up his position and go to a somewhat larger place at the other end of the country, with the prospect of repeating the removing process several times within ten or fifteen years, simply because these moves might be steps toward a permanent location in some great metropolis, or whether, even under the stimulus of such a reward, any large body of young men would spend many years in unremunerative original work, or if once in the way of doing such work, whether they would continue it amid the exacting vicissitudes of active practice[2] In other branches of science there are no such difficulties, the zoölogist, for example, not only feels free to use upon original work whatever time and energy his routine work may leave him, but he does so in the conviction that he can in no other way so certainly advance both his spiritual and his material welfare The result is that in zoology, physics, botany and astronomy America turns out a mass of work which compares favorably with that of any country in the world The physician, on the other hand, however strongly inclined toward the purely scientific side of medicine, finds that its pursuit constantly clashes with the practical side If he has a large practice he finds it hard or simply impossible to do more than keep up his reading and attend to his patients, while if it is small he is apt to think, perhaps rightly, that pulling various social and political strings will do more to increase it than anything he can do toward the advance of scientific medicine Laboratory work not only is generally unremunerative and often, for immediate purposes, impractical, but it is entirely possible for an unworldly man who has a passion for it both to neglect his practice and to actually get behind the times as a practicing physician

It may be said that in offering lucrative professorships and other valuable positions as rewards for original work we are not appealing to those highest motives which should animate the scientific mind, if the best work is to be done This is true, the very best work is apt to be done only when a man of the highest intellect, energy and single-mindedness has the leisure and opportunity to seek the truth solely for the truth's sake or for the sake of his fellow-creatures, and of this most fortunate combination I know of no more shining example than the Anglo-Saxon, Charles Darwin But what concerns us now is to find some means for getting a large amount of useful work done by men who are entirely competent to do it, but who will not do it unless some more powerful incentives than love of truth and man can be brought into play In Germany such an incentive is the university system I do not say that the same plan can be made to work equally well here, but simply that if it can not, so much the worse for the future of American medicine

It may seem that the foregoing lines lay too much stress on experimental and laboratory work as factors in medical progress, and to avoid this misconception let me state that I fully appreciate the necessity of all other kinds of serious research The man who for years crowded with experience gives accurate and keenly objective reports of his cataract operations, or the man who gives systematic thought to any of the more abstruse problems of ophthalmology or who works at the careful collection and sifting of the literary and clinical testimony on any particular subject may be doing original work of a much higher and more useful kind than he who spends the same time with his eye glued to the large end of a microscope I also appreciate the fact that the inventor of an ophthalmoscope, or an intestinal button, or a new lid-stitch, may do more for suffering humanity in a few moments than another who delves for a lifetime in the laboratory But such fortunate flashes of intuition come rarely and do not alter the fact that the only sure way for the average man to contribute to medical progress is by the patient and systematic search for new facts

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ORIGINAL ARTICLES

GLIOMA OF THE RETINA

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June 7 10 1898

BY J L THOMPSON, M D
INDIANAPOLIS

In the eye section of the Ninth International Medical Congress, an eminent specialist of Paris said "I have seen but four cases of glioma of the retina' This struck me as being a very small number, and led me to look over my records of the years 1871 to 1898, inclusive I shall, therefore, briefly report them as follows

Case 1 —Girl, aged 1 year, was brought to my office August 29, 1893, with glioma of the right eye, which was described in Vol iv of Knapp's Archives of Ophthalmology, in 1874, the clinical history by myself, the anatomic by Dr Knapp As the subsequent history was not published, I recently wrote to the child's mother for data concerning other members of the family who have since died of this disease Her letter, which I here produce, will explain the whole matter

"At your request I will try to give you the desired information First child affected with cancer of the eye was a boy, born Sept 9, 1869 Disease noticed when born No medical attendant Died August 27, 1871 Second child, girl, born August 23, 1872 Disease noticed in right eye June, 1873 The eye was removed by yourself, Sept 2, 1873 Cancer came in the other eye about seven months later and she died August 11, 1875 Third child, boy, born October 29, 1880 Cancer discovered in the eye at the age of three months Died January 24, 1882 Fourth child, girl, born Sept 8, 1883 Disease noticed in right eye in February 1885 Died March 5, 1887 Fifth child girl, born Sept 29, 1888 Disease noticed in right eye February, 1890 *Died* July 5, 1891 I am *fifty five* years old, the mother of fourteen children—seven boys and seven girls I have always had good health I have lost no other children—but the five who died of the cancer of the eyes. I did not know my husband's people, but an old lady who did, told me that a greataunt died of cancer of the breast, and that she had three children who died of cancer of the eye. My last three children's eyes did not get so large as the first two, but they suffered with their stomachs. It was impossible to get any food to stay on their stomachs."

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[2] Perhaps a still more doubtful question is whether young men with a good start in some large city would accept calls to small towns with the readiness of the Germans

(Comments on these cases will be reserved for closing remarks.)

Case 2.—Girl, aged 4 years. Parents negro. Brought to me April 28, 1874, with a gliomatous tumor, which entirely filled the right eye and so pressed upon the iris as to cause much pain. The pupil was widely dilated. The eye was enucleated, simply for the purpose of relieving pain. Death three months afterward.

Case 3.—Boy, aged 5 years. Parents German. No cancerous history is found. Consulted me January 9, 1877. Glioma of right eye. Vitreous chamber entirely filled with the growth. Pupil widely dilated (T+3). Child suffered greatly. Enucleation January 11, 1876. Death from brain trouble, July, 1876.

Case 4.—Boy, aged twenty months, was brought to me Sept. 10, 1878, for the purpose of having what the parents and their physician supposed to be a cataract removed from the right eye. But when I told them that it was a malignant tumor, which should be treated only by removal of the eye ball, they went home. I learned afterward from a physician that the child died of brain disease in the following year.

Case 5.—Girl, aged 4½ years. The parents consulted me May 21, 1880. They had noticed the peculiar metallic reflex from the fundus of the right eye some months before. The growth entirely filled the eye ball and pressed upon the iris. No anterior chamber. Pupil widely dilated, pain great, enucleation May 25, 1880. Child died in the following December.

Case 6.—Boy, aged eight months. Glioma in both eyes. Parents healthy, had noticed the growth in the left eye soon after birth, but had only seen it in the right eye a few weeks before they consulted me, on July 12, 1883. No operation. I learned that the eyes protruded from the orbits soon after they returned home, and that the child died of brain disease about ten months after their visit.

Case 7.—Boy, aged 4 years, brought to my office July 5, 1884, for the purpose of having an operation for cataract. The growth filled about half of the posterior portion of the eye. When told that it was cancer, and that the eye should be removed, the parents objected, returned home, and, as I learned from their physician, the child died in convulsions nine months afterward.

Case 8.—Boy, aged 2½ years. The parents, who consulted me, had noticed a peculiar shiny appearance in the eye several months before they brought him, which was on February 9, 1886, when the tumor filled about three fourths of the vitreous chamber, and seemed to contain two lobes of unequal size. The pupil was a trifle larger than that of the other eye, but quite movable (Tn). Enucleation the following day. I saw the child two years afterward, and there was no sign of the disease in any other organ, and he is now in perfect health, twelve years after the first consultation.

Case 9.—A fine looking boy, aged 2 years, of very intelligent German parents, who brought him to me on October 11, 1888. They had noticed the bright reflection from the eye some months previous to their visit. The pupil was but a trifle larger than that of the other eye. After dilating it, a well marked lobated glioma was found. When the parents were told that it was a cancer, they were terribly agitated, and they immediately commenced consulting all the prominent eye specialists of neighboring cities. I removed the eye ball on Nov. 23, 1888. He had an artificial eye put in about ten months afterward, and I occasionally see him upon the streets in perfect health, ten years after the enucleation.

Case 10.—Boy, aged 2 years, was brought for examination on October 11, 1890, with gliomatous tumor, which filled about two thirds of the vitreous chamber of the right eye. The pupil was normal in every way. I advised the immediate removal of the globe, but the parents objected, went home, and did not return until eleven months afterward, when the tumor had pierced the back part of the sclerotic coat forcing the globe partly out of the orbit. My son enucleated the eye ball simply to relieve pain. The child died six weeks afterward with brain symptoms.

Case 11.—A beautiful girl, aged six months, with fine looking, healthy parents, who consulted me on December 26, 1896. The gliomatous growth filled a little more than half of the back part of the vitreous chamber of the right eye. The pupil was slightly dilated, but movable. It was a typical case of gliomatous tumor, with its well marked lobes, as usually seen in such cases. When the parents were told that it was cancer, and I asked about the family history, I learned that the father's grandmother died of cancer of the uterus. The eye ball was taken out on December 26, 1896. The child returned home on the fourth day, and is now perfectly well, eighteen months after the operation.

Case 12.—Boy, aged 2 years, was brought to me for consultation November 10, 1897, with well marked gliomatous tumor, which filled three fourths of the vitreous chamber of the right eye. Dr. Thomas of Logansport, an eye specialist, who sent the case for my opinion, enucleated the globe the next day. He wrote me a few days ago that the boy is now in the best of health, with no sign of a reappearance of the disease in any of the tissues. But as only six months have elapsed since the globe was removed, it is too soon to state the result.

Case 13.—Girl, aged 3 years. Her mother, who is a delicate looking woman, brought the child from an adjoining state, just as I was finishing this report, May 20, 1898, with a gliomatous tumor of the left eye. The parents first noticed it about one year before, but as their physician told them that it was a cataract, they put it off until it caused great pain, and made the eye to protrude. When first seen there was much inflammation of the conjunctiva, and three fourths of the globe was prolapsed. The eye ball was removed simply for the relief of pain. Of course the child will die.

REMARKS

The first point which calls for inquiry is the large per cent of cases met with in my practice. The gentleman referred to as having seen only four persons suffering from glioma of the retina is known to have then examined fifty thousand patients. My private records show a trifle over twenty-four thousand five hundred patients examined, and thirteen cases of this disease. (It is possible that I have overlooked one or more.) Add to the thirteen four cases reported by the mother of my first case, and we have seventeen cases of glioma.

Can climate, or soil, or temperament have anything to do with its causation? Two of my patients were of German parents, one negro. All the others were native born, as were their parents. All but one family had lived long in Indiana. The one out of the State resided in the adjoining State of Illinois, both of which contain very flat lands. In the seventeen cases, ten were found in boys, seven in girls. The right eye was affected in thirteen, the left in two, both in one case, and in one the eye affected was not mentioned.

In seven of these children the eye was not removed, and they all died within a year after they were examined. Ten eyes were removed, but in three of them it was too late to expect anything from the operation, except the relief of pain. Three of them are cured. Of the two others now living, one which had the eye removed six months ago has no symptom of the disease left, but it is too early to speak of a cure. The last one, which had the eye-ball removed but eleven days ago, will doubtless die.

It will be seen that three of these patients were supposed to be troubled with cataract by their attending physicians.

One question arises. Were the cases which recovered true gliomatous tumors? The answer is: They were, most undoubtedly. Indeed, I can not conceive of the possibility of a mistake being made by any practiced and careful observer. How could one fail to differentiate between a gliomatous tumor, with its anfractuosities and well-rounded convolutions, and any condition of the fundus of the eye which has resulted from inflammatory conditions?

Pseudo glioma is a misnomer, and should have no place in ophthalmic literature. Not only were these cases examined macroscopically, but they were sent to some of our most expert microscopists and pathologists Dr Weeks of New York and Dr Wynn of Indianapolis pronounced them to be true cases of glioma

In presenting these cases for your consideration, my chief aim is to emphasize the fact that glioma of the retina is not necessarily fatal, but that many cases have been, and can be, cured by early enucleation

DISCUSSION

Dr C M HOLMES, Cincinnati—I have seen four cases of glioma, and unfortunately the first three were not operated upon in time, that is, they refused operation, although I believe the cases were seen early enough I have one case that was operated upon about one year ago, and in which there has not been the slightest return so far, but statistics prove that even that is not sufficient time to warrant pronouncing a cure The question as to whether there is such a thing as glioma, or whether these tumors should be classified with the sarcomata, is now under discussion by the microscopists In the last case I had very careful microscopic sections were made, and it seemed to demonstrate the opinion of some expert pathologists that the glioma, as we call it, nearly always arises from the inner, granular layer of the retina Hence there is now a desire to reclassify this tumor and put it with the sarcomata It is not yet a settled fact, for recent German pathologists still classify it by the old name

There is one thing certain we must see our cases early, and we should insist upon operating or have nothing more to do with the case, and if we do this I believe we will get the consent to operate more frequently than we have done I think one reason for the frequent refusal has been that we have not been firm enough

Dr FRANK ALLPORT, Chicago—I have seen two cases of glioma of the retina, and both were examined microscopically by Dr Holden of New York Both of these cases occurred in children, one a child about 3 years old, who was operated six years ago by enucleation That child is well today and has had no signs of a recurrence The glioma did not extend beyond the globe The other case came to me three years ago, and when first seen the glioma had extended beyond the globe The eyeball and tumor were removed and the child died of a recurrence of the disease one year ago So one of my cases died and the other has not, though six years have elapsed without any apparent evidences of recurrence

Dr J E MINNEY, Topeka—I have seen four cases, of which two are living One was seen in consultation with Dr Longnecker some six years ago and was proved by pathologic examination to be that form of cancer That little girl is living today

The most interesting case I had was that of a little girl 12 years of age, in whom we diagnosed glioma of both eyes One of the eyes was giving considerable pain and we removed it We exhibited it to a pathologist and it proved to be the characteristic glioma, or sarcoma, as some call it now The second eye was affected in the same way and total blindness occurred in six months That eye was removed four years ago and the girl is in a blind asylum today

Dr E C ELLETT, Memphis—I should like to report two cases The first occurred in the practice of a friend of mine who enucleated both eyes of a child 1 year old All the orbital contents were removed and one eye was sent to Dr Prudden of New York, and the other to a pathologist in Brooklyn They agreed in the diagnosis The patient is now, after eighteen years, a healthy individual

The other case was a child 2 years of age, brought to me in April, 1897, with the history that since birth the right eye had been noticed to greatly enlarge and, as the mother expressed it, "something white could be seen in the pupil" The eye had begun to shrink some weeks before I saw it I thought it was a case of detachment of the retina, and as the examination did not cause me to suspect anything more than detachment, I advised taking the child home In August of the same year the process began in the other eye and they brought the child to Memphis to consult another oculist, who made the diagnosis of glioma and enucleated that eye The child died this year of a recurrence

The eye which was affected when I saw her did not up to the time of death present any evidence of further advancement of the process whatever it was, and of course it must remain a question whether it was detachment or glioma in the first eye

Dr GARTEN—Dr Thompson quoted an authority who had examined 50,000 cases and had seen but three cases of glioma My impression is that there is not a man here who can not report one or more cases that have come under his notice, and the question arises, are we all wrong in our diagnoses? I have seen four cases myself and would report about the same results as given by the other gentlemen

Dr T A GRIGG, Butte, Mont —I would like to say a few words upon this subject and would like the gentlemen who discuss it further to give an opinion along these lines, that is whether in operating for glioma they simply enucleate the eye, or whether they remove all the orbital contents at the same time, would not the results be better by removal of all the orbital contents?

I have had two cases operated upon in this way, one of three years' standing now, and there has been no recurrence Dr Thompson did not state how his operations were done, whether enucleation simply was done and the orbital tissues left for cosmetic effect or whether the contents had been removed

Dr H V WÜRDEMANN, Milwaukee—I am pleased to learn from Dr Thompson's large experience that there has been such a large proportion of recoveries after operation I have seen out of about 8000 cases, 5 of glioma of the retina and 3 of these have come to operation All of these cases have died within six months after the first diagnosis The trouble with most cases of intraocular tumor, as you all know, is that many of them come to us too late to insure a satisfactory prognosis They come when inflammation has set in and the eye has become infiltrated with new cells The question of diagnosis of glioma is one that it seems to me is readily determined by the history There are a number of inflammatory affections of the eye that on ophthalmoscopic examination, may seem to look like glioma, but the diagnosis can be made from the history, together with the existing conditions As a rule there is no tension, there is inflammation, and the ophthalmoscopic appearances are almost characteristic The cases are all fatal if not operated upon

I have a specimen of glioma here, which I pass around for examination It was diagnosed within a few months of its inception but an operation was refused Three months later the patient came with an eyeball full of the tumor mass, and I enucleated with slight hope of saving the patient's life The tumor reformed in the orbit and the child died within three weeks This section shows very well why, when we operate at so late a date, we meet with failure

Dr CHARLES H BEARD, Chicago—I have had several cases of glioma occurring in dispensary practice upon which no report has been made, and in only one of which did we get a microscopic examination That case was a little baby less than two years old The patient recovered and reports to me now from time to time Another case which occurred in my private practice is that of a little girl who also reports to me occasionally Those are the only two cases that I have treated which I know to have been glioma and which I know to have recovered

Dr C D WESCOTT, Chicago—I wish to mention one case of interest from the standpoint of the diagnosis The patient was a child 3½ years of age, first seen when the symptoms had existed for one year The clinical diagnosis of glioma was made The tension was up and the eye slightly painful at times Microscopic examination demonstrated the fact that the tumor was a non-pigmented sarcoma of the choroid Tumor cells were found in the optic nerve and in three months the tumor was visible in the orbit I exenterated the orbit after six months, but the child died six months later of another recurrence

Dr J O McReynolds, Dallas, Texas—I have been very much interested in this subject, especially with reference to pseudo glioma, because I have recently had a case which seemed to belong to that type I have seen only four or five cases of glioma, about half of which have been fatal The case of pseudo glioma occurred in my practice about two years ago and was observed by others I advised removal of the eye, the growth having been in progress about three years I saw the patient about a week ago, and he is in perfect health without recurrence An examination of the eye afterward showed it to be a pseudo glioma, that is, it was not regarded as true glioma I would like to know whether there is such a thing as a pseudo glioma This case was first diagnosed as detachment of the retina and progressed for several years without increase of tension

Dr H M Starkey, Chicago—I will pass around to go with Dr Würdemann's specimen, two cells containing the hemispheres of an eye enucleated by myself one year ago last March Macroscopic and microscopic examination shows it to be glioma As there has been no return of the growth, we may reasonably hope that there will be none

The eye was removed the day following that upon which the child was first seen The tumor had not penetrated the globe, nor had it extended along the optic nerve, which was severed well back in the orbit

The statements of the comparative rarity of glioma have been a little surprising to me, as the proportion of cases of this disease coming under my observation is much greater than that given by most of the German writers

In two of my cases the removal of the eyeball has seemed to have entirely eradicated the growth, the case mentioned above and another seen in perfect health sixteen months after the operation

Dr D S Reynolds, Louisville—I do not wish to prolong the discussion, but I am amazed at the opinions expressed and am tempted to cull just a little from memory, for I have no record with me now to quote from It seems to me that in thirty years I have seen more than a dozen cases of glioma In 1869 I saw my first case in a child about two years of age She still had sight in the eye, but it was noticed that there was a little yellow reflex on looking into the shaded pupil Examination showed a tumor by the side of the optic nerve entrance I pronounced it in all probability a glioma and suggested enucleation The late Dr Sloan, of New Albany, advised that we wait a few weeks and see the child again That was done and the tumor had almost doubled in size I operated and the other eye did not show any manifestation of trouble until 1873, when she began to have a little irritation in that eye An examination showed the same kind of golden colored tumor, clearly within the retinal substance The eye was enucleated and microscopic examination showed it to be a glioma purely within the retina and not invading the other structures except the contiguous portion of the choroid

As to there being such a thing as a pseudo glioma, I take it for granted that diagnosis was not clear, it means something else, and not glioma

I am sure Dr Wescott's case can be duplicated by many other gentlemen I have known them to invade not only the globe, but all the orbital tissues, as I have more than once reported cases of this kind I have stood as almost the single advocate, in my part of the country, of enucleating all cancerous eyes, and scraping out the tissues of the orbit for cancerous growths

I had an old blacksmith upon whom I operated in 1875, and who recovered his health, went back to work and enjoyed comparative comfort for five years, when the tumor again appeared and he finally died of cancer in other organs At the time of operating a mass of cancerous tissue as large as the patient's head protruded from the orbit.

The exact counterpart of these tumors is found in the optic nerve and in the brain It is essentially a tumor of nerve structures, and if not, it is not a glioma I have operated in cases of glioma and had the misfortune to see the tumor appear elsewhere and the patient die I know of no complete recovery except the first mentioned case and she, for many years, was a teacher in the institute for the blind

Dr Flavel B Tiffany, Kansas City—In my experience of twenty years I can recall eight cases that I have had, three of them double In these cases all were under seven years of age, and I believe that it is the experience of all of us that glioma appears in the young only My cases, with the exception of two, were negroes, and it has occurred to me that this disease may be more frequent in that race than in the white, and that perhaps that would account for our seeing more cases in this country than are seen in Europe

When the eye is ruptured and the tumor protruding I exenterate all the orbital contents, but if the tumor is confined to the eye I can only enucleate

Dr Boyd—I can only report one case but that is a rather peculiar one, for I found that two others in the same family, brother and sister, had died of the same cause The father and mother were both healthy My case died, making three out of five children to die of glioma of the retina

Dr R F LeMond, Denver—I have seen three cases of glioma of the retina and can not agree with Dr Tiffany that they occur only in the young, for of my cases one was 52, one 55, and the third, now under treatment, 53 I operated upon two of them and one died

Dr Herbert Harlan, Baltimore—One of the gentlemen laid some stress upon the importance of urging upon the patient the necessity of having the operation performed I have lately seen a case that has caused me to give much consideration to that point The patient is a child 8 months of age, and in March last the mother noticed something white in both pupils The pupils were partly dilated and the child could see objects and take hold of them The diagnosis of glioma in both eyes was made and I have seen the child every three weeks until a few days ago There is no evidence now of perception of light, though the pupils react slightly to strong illumination This happens to be the child of an intelligent physician, who understands the matter thoroughly, for he has had the opinions of three oculists, and he declines to permit interference in any way So while it is well to advise operation there are some cases in which it is impossible to do what we think best

Dr D C Bryant, Omaha—I would like to add about a half a dozen cases to those reported Three of them were seen after perforation had taken place, but before any extensive growth had occurred outside In these cases all the contents of the orbital cavity were removed, but a short time afterward recurrence took place and death followed In the other three cases, where there was no perforation, two had a return a short time after enucleation and died The remaining case was enucleated four years ago, has had no symptoms of return and the patient is well This was a child about 1½ years old

R. L. Randolph, Baltimore Md said that Greef had recently made some observations in regard to the histology of these tumors which he has been able to confirm Randolph has noticed that in sections of gliomata stained with hæmatoxylin the cells immediately about the blood vessels are more deeply stained than those lying at points remote This gives to the tumor almost the appearance of angioma This condition is to be accounted for in a large measure by the high intraocular tension, which has the effect of squeezing out the life of the cells remote from the blood vessels, and consequently these cells appear in the sections necrotic, while those surrounding the vessel retain their vitality and stain deeply Recent work has shown that the tumor does not originate, as was once thought, from the external or from the internal granular layers It will be remembered that the cells in a glioma morphologically resemble those in the granular layers of the retina, and this seemed a strong reason for supposing that here the tumor originated Improved methods of staining, however, have shown that the tumor cells are not only like those in the granular layers, but that they are of different sizes and shapes, some being oval and some having processes and resembling a rosette The theory as to the origin of these tumors is new It is not an uncommon thing to find in a normal retina cells which are out of place, that is to say, cells in one layer which morphologically belong to another layer, as, for instance, ganglion cells in the internal granular layer, and vice versa These cells have been called by Cajal, Wintersteiner, Greef and others, misplaced cells and these observers have noted that gliomata are made up largely of these misplaced cells The conclusion is then that a glioma orignates from a cell which is misplaced in fetal life, and which misplacement may occur in any one of the retinal layers

Dr Thompson—In closing I would like to say that those cases which have returned have done so inside of seven months I have never had a patient over 6 years of age with glioma I can recall tumor after tumor of a sarcomatous type, but they have been after 7 years of age, so I conclude that age assists in the diagnosis One gentleman asked whether I took out all the tissues of the orbit in my operations? No, I do not think of any such thing if the tumor is confined to the eyeball I enucleate, cutting the nerve as far back as possible, if the growth has burst through the globe then I remove all the orbital contents If I could have taken the time to have read all of my paper you would have seen why I operated differently in different cases

I can not conceive of a person confusing glioma with detachment of the retina if the patient is seen in private practice Such a mistake might be made in the hospital, where in seeing a large number of cases you make a snap shot

As regards pseudo glioma, as one gentleman has said, it is either glioma or it is not glioma It is glioma I was talking about If any gentleman here should mistake these two conditions I should be inclined to pay no attention to him at all

I think we should advise early enucleation, and tell them they will die just as sure as can be if they do not have the operation performed Then I presume those that die are glioma, and those that do not are pseudo glioma

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A CASE OF "MATHEMATICALLY-PERFECT EYES"

Presented to the Section on Ophthalmology, at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo , June 7-10, 1898

BY GEORGE M GOULD

PHILADELPHIA PA

On Oct 12, 1897, I was consulted by a gentleman 50 years of age, whose chief complaint was of subconjunctival hemorrhages, which had occurred on an average every two weeks during the past year I found that he had consulted a great many oculists during this time who had either given general treatment for gout (of which there was some slight evidence) or had sent him to the general practitioner, or had only prescribed reading-glasses, etc The hemorrhages seemed to come on spontaneously and were bothersome chiefly because they gave the man such a frightful appearance, and caused mental worry, rather than any decided pain or trouble of vision One eye was generally affected at a time, and as the hemorrhage only stopped when the subconjunctival space was thoroughly filled with blood, the appearance of the eye and patient is easily imagined I frankly asked the gentleman what he supposed I could do for him when the large number of the best men of the city had failed His own faith was plainly little, but I was compelled to try General disease of any pronounced type was excluded by thorough examination, the family history and personal history were beyond reproach, and one of our most careful "internists" had treated him on general principles for this one ocular symptom without influencing it in the least The muscular co ordinations of the eyes were as perfect as they could be, and by all nonmydriatic tests both eyes were absolutely emmetropic, the visual acuity was 20/20 + Indeed the man had soon told me that he was an optical curiosity, other oculists having marvelled at the emmetropism of his eyes, and one especially—a man of large practice and scientific ability, had repeatedly said that his was the only pair of "mathematically perfect eyes" he had ever seen It was certainly a gloomy outlook for the man with a fad —the "oculist hobby rider "

Relying however upon the results of many experiences, I proceeded to work upon the basis of what have become axioms with me, viz *No mydriasis, no diagnosis of refraction* and, *all presbyopia is only relative* Under a mydriatic I found the visual acuity as perfect as it had been without it Then I comforted myself with another maxim *Perfect visual acuity is no proof of the non-existence of an error of refraction*, and I was soon able to demonstrate an error as follows

R —Cyl 0 25 D ax 90°
L —Cly 0 25 D ax 180°

Now I did not say to myself that this tiny error of refraction was the cause of the conjunctival hemorrhage, I did not then dream that it was, and told the patient that if any local cause for this existed I believed it to be due to the failure to use presbyopic glasses while eating meals, card-playing, etc With this end in view I ordered bifocal spectacles, for distance the cylinders as above, and for near a proper spherical added Then came downright rebellion, the man was mad at the idea of wearing the "hideous things " I said, then, that this was my prescription, and, unless followed, I stood discharged He went away savage and disgusted, but did order the bifocals, wore them part of one day, and more wrathful than ever, ordered the optician to turn them into separate pairs of eye glasses As I had washed my hands of the case, I allowed the optician to do as the man desired, and not seeing him again I supposed he had left me for another and a less dogmatic adviser I had quite forgotten about the matter, when in two months my office-boy brought up a bill my secretary had sent the man, with a check to pay it, saying the gentleman had asked to have the receipt signed, would not come up, etc Luckily I remembered the name, and returned the receipt by my own hand, impelled by a certain quizzical curiosity He was evidently in a very different mood, said he did not want to trouble me, intended writing, etc , but was glad now to tell me how happy he was with his eye-glasses I have seen him several times since and to shorten an overlong story I will say that not only has there been no recurrence of the hemorrhages, except one very small one, since getting the glasses, but a previous discomfort uncomplained of, and hardly recognized, is completely relieved, but returns at once if the low cylinders are not worn, this discomfort is now so decided that he has had made heavy steel spectacles to wear in his bath, the sense of pressure and irritation becoming so great even in a time so short as that

I shall not now attempt to explain the *modus operandi* of a low astigmatism producing so severe and unwonted a result as these hemorrhages That it did produce them I have not the shadow of a doubt, and the method is perhaps readily enough divined by all of you There is only a single negative I wish to emphasize, and this is the reason I have gone into the rather gossipy details of this case, there is not the least crevice through which may creep the suspicion of hypnotism or autosuggestion The man was mad at me, and I was provoked at him, he refused to follow orders, had no faith in the diagnosis or the doctor, and as a last climax-clap, I was utterly mistaken in my diagnosis! It was not the need of bifocals, or of presbyopic correction, that was the true etiologic factor but simply the low myopic reversed astigmatism The fact of this only came out through unfaith and indirection by wearing the forbidden eye-glasses

This has led me to entitle this report a case i e, an instance of disease of emmetropically-perfect eyes and so many lessons are suggested by it, lessons which I myself have long needed, and which, perhaps, one or two of you may profit by, that I have been moved to report the case, chiefly for the fun of tne *hæc fabula docets* These shall be most briefly recaptulated

1 The most important lesson that springs into view one which every day, and in every journal, and in every other case-report, should be printed in double caps is this Although a patient has been examined by one or more good oculists, and glasses prescribed or reported as not needed, the fact has no significance whatever It does not prove that eye-strain does not exist, nor that it is not a source of any of the results that eye-strain may produce This seems extreme and even revolutionistic, but it is literally true In this case the proof of the pudding is not in the eating There are a hundred qualifications needed to the bald statement that "glasses did not lessen the symptoms," or "the oculist reported the eye-examination was negative," or "eye strain was ruled out by careful tests,' etc I do not care a button for sudh assertions they are simply meaningless unless very many other considerations go with them Do not for an instant think I make an exception of myself, or wish to cast any slur upon the work of others that would be simply silly What I mean is, that in these infinitely delicate matters, in these calculations of infinitesimals, slight differences, inobviable personal equations, etc may indeed occur and be the reason of failure, but beyond all this there are numberless questions e g, as to correctness of make and accuracy of adjustment of the glasses as to methods of wear or non-use as to habits and peculiarities of eye-work, as to length of disease, as to suddenness of consequent refraction-changes as to the frequent impossibility of curing a result by curing its cause as to complicating causes as to intercurrent general diseases, etc Not only in the case reported but in hundreds more I have learned that my own errors, mistakes and blunders, as well as those of others, may show the fallacy of a single judgment, a multitude of provisos must be excluded and the subsequent history closely scanned in order to prove or to disprove the lumpish dictum, "glasses gave no relief ' Facts are stupid and useless things without an intellect to discriminate, marshal and use them It takes more than a lot of rocks to make a lock or a breakwater

2 A very slight uncorrected error of refraction may be the cause of strange and serious reflexes and results, and this is especially true if it be unsymmetrical astigmatism, and still more surely if it is a low degree myopic astigmatism, in which there are no means of escape by blunting into amblyopia, or by shunting into heterophoria, and no possibility of ciliary-muscle contraction overcoming the defect

3 Low-grade myopic astigmatisms are hard to diagnose, and are in practice too commonly overlooked and neglected, although they must be as common relatively as hyperopic varieties

4 It is only by the mydriatic, combined with infinite patience, delicacy, and skill, that such astigmatisms are correctly diagnosed Perfect visual acuity is no disproof of coexisting ametropia

5 The mydriatic is more necessary in presbyopia than previously All the text-books and teaching is wrong in this Precisely when the compensatory mechanism is being narrowed by presbyopia, is then the greatest need of accuracy in the correction of the smallest degrees of anisometropia and astigmatism Then, also, the vital powers are failing and the cataract age is nearing, so that precision in refraction is doubly and trebly imperative Presbyopia is always relative, never absolute, particularly if proper glasses have not been worn during many previous years Without a mydriatic there is no accurate estimate of errors of refraction, and between the ages of 40 and 55 the estimate should be painstaking to the uttermost degree, especially if any suspicious reflexes exist

6 Absolute emmetropia, "a mathematically perfect pair of eyes," does not, I believe, exist A perfect leaf has not been found, nor absolute symmetry in any organic thing The report of perfect emmetropia is a confession of negligence and unskilfulness I have made such reports myself and can therefore speak dogmatically If such a diagnosis has been made without a mydriatic the negligence deserves a much harsher naming

7 And even if there were such a mathematically perfect pair of eyes, I can easily imagine circumstances in which the use of such eyes might be the cause of morbid results As othophoria is always a disease, so emmetropia, in a seamstress or in almost any hard-pushed eye-worker, in a neurasthenic, in a heterophoric, or in a presbyope, may functionally be a disease and require correction by glasses Emmetropia is nature s unrealized ideal for the animal, savage and primitive man A low degree simple myopia, alike in both eyes, is the desideratum of the slave of civilization

To focus this long winded reading into a sentence I should say that when a possible or suspicious ocular reflex exists, painstaking mydriatic refraction and correction are necessary both in presbyopia and in "a mathematically perfect pair of eyes And when this has been admitted comes the rider that even after all has been done it can not, with utter certainty, be said that the eye strain was not, or is not, the ultimate source of the morbid symptom

Since writing the above my friend, Dr H O Reik of Baltimore, sends me the following note

> On Feb 1, 1898, a lady, aged 30 years, consulted me because of slight subconjunctival hemorrhages of both eyes, which, she said, had recurred a number of times without any known cause She was otherwise in perfect health She remembered that during her high school life she had been subject to somewhat similar attacks, which came whenever she was doing an excessive amount of reading and study Lately she had been using the microscope very constantly and had also been reading a good deal These were none of the usual asthenopic symptoms Vision was perfect, and there was no manifest hypermetropia The muscle balance was also good Examination under homatropin showed the following error
>
> R E —C 0 50 D ax 90°
> L E —C 0 50 D ax 180°
>
> The above glasses were prescribed, and since that time she had no more trouble of the kind
>
> I find in my record book the diagnosis "subconjunctival ecchymosis due to refraction error "

It is noteworthy that the error causing the trouble in both the case of Dr Reik and my own, was a low degree of myopic astigmatism at reversed axes

DISCUSSION

Dr C B **Wescott**, Chicago—I am sorry we could not have heard the last page of this paper I have always been a firm believer in the use of mydriatics after the age that they are usually thought of by my brothers and fathers in the profession Since my visit to Philadelphia, last year, I have been using them in my older patients I think the oldest was 64, and I must say the more I use them the more satisfactory I find them I quite agree with Dr Gould, that it is fully as important to correct the low degrees of errors of refraction after forty years as before, and I am doing it with great delight

Dr J E **Minney**, Topeka—I want to emphasize one point the doctor made I was two years getting proper glasses when my error was very small Secondly, I believe the blood vessels of that man's eyes were not normal, and I would suspect that there would probably be in the future some brain lesion, and if it was a case of mine I should warn the patient to be on guard

Dr G C **Savage**, Nashville—The question of why astigmatism should be more troublesome if vertical in one eye and horizontal in the other, has not been fully set forth, so far as I know I believe the increased trouble experienced by patients of this kind is due to the fact that the visual axes, in order to harmonize images, throw upon the recti muscles the necessity for breaking their regular movements We all know, as set forth in a paper by Dr Jackson, that the image is elongated in the direction of the meridian of greatest curvature If elongated horizontally in one eye and vertically in the other, the superior rectus of one eye rises to one point and that of the other must go a little beyond it, and, so in going from side to side, for there must of necessity be fusion of images of the part looked at If one axis has to go so far and the other farther, you can see there is at once a disturbance of harmony I believe that astigmatism against the rule in one eye and according to the rule in the other, is of more importance to patients on this account

Dr **Harold Gifford**, Omaha—While I started out as a skeptic concerning the correction of so small a degree as one quarter dioptre, I want to report that I have obtained a good result in one case, that of a homeopathic physician, by prescribing a one eighth dioptra glass

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To Protect Animals from Flies—According to the *Journal d'Hygiène*, flies and insects will not molest an animal if it is smeared lightly every morning with a salve made by boiling a large handful of laurel leaves in a kilogram of lard Follow the direction of the hairs

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THE GALVANIC CURRENT FOR THE TREATMENT OF PTERYGIUM

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY HORACE M STARKEY, M D

CHICAGO ILL

Since electricity has been used in almost every diseased condition of the eye and its appendages, from senile cataract to stricture of the nasal duct, a brief enumeration only of these various uses would consume all the time allowed This will not be attempted, but attention will be confined to the use of electricity in one condition—pterygium

Six years ago at the Detroit meeting of this Section, the writer made a brief statement concerning the treatment of pterygium with a weak galvanic current, which he had been employing with apparently good results for about two years, and requested members of the Section to give the method a trial While he is not aware that that request has met with any response, he has continued to employ the method then outlined, and longer experience has convinced him that it has decided value in suitable cases

In September, 1889, the writer, who was at the time much interested in the study of electricity, saw a pterygium that it appeared to him at once would be favorably influenced, if not entirely removed, by the galvanic current The pterygium was small, the apex just commencing to encroach upon the cornea, and was composed of a few large blood-vessels with a minimum amount of connective tissue and thickening of the conjunctiva The patient was seen but for a few moments and promised to return in a few days for further examination and treatment He did not, however return for nearly a year, and in the meantime no other case was seen in which the conditions seemed favorable for the treatment

June 2, 1890, however, the patient, S J F, age 36 machinist, referred by Dr Creighton, returned, and the proposed treatment having been explained to him, he consented to a trial of it, and the positive pole, a platinum needle, carrying a current of three milliamperes was used in the method to be described The current was passed through the pterygium in three lines for one minute at each place, with the inevitable result that the lumen of the enlarged vessels was closed The patient was to have returned in a few days for observation and further treatment, but nothing was seen of him for nearly a year, when he was met upon the street In answer to inquiry as to why he had not come back, he said that the eye had been entirely cured by the one treatment, and that he had not thought it necessary to return An inspection showed that the enlarged vessels had disappeared and that there was but a very slight thickening of the sub mucous tissue remaining The patient has been seen from time to time as late as 1896 when, notwithstanding several attacks of mild conjunctivitis, the pterygium remained unchanged For two years now he has passed from observation This case is given somewhat in detail, and while it is the first case treated in this way, it is the most brilliant in its results

Since this first case from two to four pterygia have been treated in this manner each year in private practice, nineteen in all, and about the same number in dispensary and hospital work In every instance the pterygium has been reduced in size, and in most cases the growth has been entirely checked, and while in about 50 per cent of the cases the cure has been radical, in about 20 per cent the growth has recommenced at a later period, and some form of operation has been necessary The percentage of recurrences has been less than after excision or other operations commonly employed, and the recurrences have been nearly all in cases that were unsuitable for electrolysis and where some other form of operation should have been adopted

The cases which seem to be suitable for electrolysis are those with small pterygia, not encroaching much upon the cornea, and particularly those in which there is considerable enlargement of blood-vessels Experience seems to show what a knowledge of the action of electricity upon the tissues would lead us to expect that commencing pterygia that are as yet too small to be harmful may be entirely checked by two or three treatments so that they remain quiescent indefinitely A number of cases have also been treated in old and feeble people who evidently had but a short time to live and in whom the dread of operation was very great In these cases the sight has been improved, irritation allayed and both the patients and their friends have been very grateful for the relief obtained The way in which the electricity acts upon the tissues is as follows

1 It coagulates the blood in the vessels, thus stopping the blood current and causing the vessels to disappear 2 It produces a mild adhesive inflammation of the sub-conjunctival tissues, thus forming a firm cicatrix between the conjunctiva and the sclera so that the gliding of the former over the latter is prevented, and 3, it destroys micro organisms in the tissues, so that, if the claims advanced by certain investigators that micro organisms are the cause of this disease should prove to be well founded, this treatment would still be rational

These effects are all produced by the positive pole when used as the active agent When the negative pole is used we get solution and absorption of the submucous hyperplasia and of the thickened conjunctiva

The method of employing the current is as follows Any source of electricity may be employed, provided it produces a smooth, constant and certain current of sufficient electro motive force to overcome the resistance of the body, and provided further that it can be so controlled as to deliver a current of from one to five milliamperes The current should be completely under control and should be accurately measured by a reliable milliamperemeter, which should measure fractions below five milliamperes The current at the terminals should be tested before each operation The apparatus being in good order the eye to be operated upon should be cocainized and a fine platinum needle, connected with the positive pole of the battery, should be introduced through the conjunctiva near the apex of the growth, and passed close to the sclera through and beneath the pterygium, and at a right angle to the direction of the growth The circuit may now be completed by having the patient press a well wetted sponge connected with the negative pole against the palm The currents should be turned on till the meter shows that one, two or three milliamperes are passing

This current should be maintained for one or two minutes A second puncture should be made in a line parallel with the first and two millimeters distant, and if it is thought desirable a third may be made The immediate effect seen is the formation of gas, which appears in bubbles upon the surface at the points of entrance and exit of the needle, and which cause some puffiness of the conjunctiva along the line of puncture Considerable hyperemia of the conjunctiva is occasioned, but large vessels with which the needle comes in contact are more or less collapsed The pain occasioned is insignificant, and while there is some feeling of irritation and fullness in the eye for a few days, this has not been sufficient in any case to prevent the patient going about his regular duties The treatment may be repeated in four or five days, or it may be delayed as many weeks, at the convenience of physician and patient

The advantages of this method are First, it avoids any loss of tissue, second, it is painless, third, it does not incapacitate the patient, fourth, it stops the progess of pterygia seen in the early stages With these advantages is coupled the fact that it seems quite as free from recurrences as any other method It is not advised except as a palliative in broad, fleshy pterygia or in those encroaching much upon the cornea

NOTE —It is well to use a small current at the first application that the irritability of the eye may be noted

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THE VALUE OF FARADISM IN CHOROIDITIS

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY ROBERT F LeMOND, A M , M D
PROFESSOR OF DISEASES OF THE EYE AND EAR GROSS MEDICAL COLLEGE DENVER COLO

The title of my paper is one that would naturally be called somewhat rare among ophthalmologists I have in the last few years come in contact with a great many cases of the various kinds of choroiditis, and have studied the pathology of all the cases very closely The various kinds of choroiditis are more or less akin, that is, in regard to the puzzling problems that they so often present to the oculist from the fact that choroiditis has been so hard to completely cure We have choroidal affections, some of the most common of which it might be well to mention namely the areolar, atrophic, disseminated, simple, plastic and suppurative Now it does not matter a great deal about the different names of these troubles, for they differ more than the real conditions of the choroidal layer, from an etiologic standpoint I have often been very much puzzled to know what has caused this condition of the eye, we so rarely get a history of the case that helps us out, and so frequently we can get no syphilitic history at all, when often that is the real source of the trouble But I believe that choroiditis results from various conditions For instance we have it in extreme cases of myopia, in the various brain tumors that we come in contact [illegible] know are conducive to this character

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NOTE —Doubtless it is well understood by all that it is not the direct action of the electric current that produces these effects The current decomposes the salts in solution in the tissues into their acid and alkaline constituents, the acids appearing at the positive pole and the alkalies at the negative pole The acids at the positive pole have a charring, contracting and hardening effect upon the tissues of the body and coagulate albuminous fluids, while the effect of the alkalies at the negative pole is to soften, dissolve and liquify those tissues in other cases where the system is depleted and run down So far as my experience goes, I find the majority of cases over 40 years of age, but have treated a number under 30, and my record book shows that about two to one of these cases are in favor of the male sex, as they are more often contaminated with syphilis than the female, and I believe that the majority of these cases originate from syphilis The opacities in the vitreous excite various influences on the vision and in different ways For instance, opacities veil the entire visual field, while a large floating opacity interrupts the luminous rays by moving between the retina and the object, thus destroying perception of smaller objects altogether and very much impairing the visual acuity In the last condition the patient will frequently learn to hold his eye still for a moment, looking directly in front, when the vision improves, the laws of gravity intervening So far as treatment is concerned, we know it has been for a long while a well blazed road, and that we should be very careful and guarded in the prognosis that we give, for fear we make it too flattering and lead the patient to believe that there is nothing the matter The object that would naturally present itself would be to have these floating bodies in the vitreous destroyed, and reasoning upon this from a scientific standpoint, we come to the conclusion that the only way to do this is to absorb them, as we have found from long experience that leeching, scarification and paracentesis of the anterior chamber do not help us out of our dilemma Then we must give something that will absorb this coloring matter from the vitreous, if it can be done The next question is, what are our best medicines for this purpose? We at once decide that the kali iodidi is one and the bichloridi hydrargyri corrosive is another, and the stimulation of the circulatory system, especially the heart, if not at its full normal strength I think the influence of the infusion of digitalis about three times a day is about as good as we can use for this purpose, aside from this it is thought well to stimulate the nervous system also, and a favorite nerve tonic is sulphate of strychnia But we learn from experience in many cases in which these medicines have been used that they will fail to do the work Then we naturally look and inquire in some other direction for a remedy that will do the work, we ask ourselves the question What is electricity? Is it not a stimulant? Stimulate the circulation and nerve centers, and all the functions of the body are excited, and if it is given to anything like full toleration it is certainly one of the greatest stimulants that we know anything of Now I have investigated and looked over a great many authors, and been able to find but little encouragement for using faradism in this character of eye trouble I find that Girard-Teulon, Lefort, says in Meyers' work on the eye, that "the constant current has been recommended for the rapid absorption of these opacities," but the constant current is negative Later, in the Philadelphia Polyclinic of April 24, 1897, Dr de Schweinitz of Philadelphia insists upon the value of faradization of the eye in interstitial keratitis If it is good in keratitis of this character, why not use it in choroiditis, as we know that the cause is the same in both troubles? In fact, many writers claim that keratitis is dependent entirely upon syphilis I do not claim to say that in connection with these absorbents which I have mentioned, electricity will cure all choroidal troubles I want to say in justification of my position regarding the treatment of these cases, that I have used electricity for the past three years and in the past few months I have given this treatment a thorough test, and we can not get anything that will substantiate us like living facts In conclusion, I will report three cases which I have had in the last eight months, as follows

Case 1 —A lady, 55 years of age, had been treated for about twelve months before she came into my hands She told me that she had taken iodid of potassa in very large doses almost the entire time, also strychnia, and that she had gone blind during this time I examined her with the ophthalmoscope and I *found that the vitreous was literally full of floating* bodies, and the fundus oculi could not be discerned at all The vision in the right eye was light perception only, in the left she read sixty feet type at 30 inches I could get no history from her case that was worth anything at all to me, she was a strong, seemingly healthy woman, had never had any eruption on the body at all I told her that I would give medicine internally and apply electricity to the eyeballs externally She at once objected to this and said she was afraid of electricity, I tried for several weeks with the internal treatment, when I had increased the kali iodid to 50 grains three times a day and the bichlorid hydrargyri to $^{1}/_{20}$ grains three times a day She got no better, but grew worse I then insisted that she allow me to apply the electricity, to which she finally consented, as I refused to treat her longer unless she would abide by my directions In her case I commenced giving her the positive pole faradic current, from five to eight cells, in each eye five minutes daily through a wet sponge Within a week's time she began improving, I kept this up for four months, at the end of which time her vision had gained in O D V $=^{15}/_{120}$, in the O S V $=^{15}/_{60}$

Case 2 —A Mr R, aged 30 years, eyes had been failing for several months Diagnosis choroiditis, syphilitic, although no *history of syphilis I found* with the *ophthalmoscope* that the vitreous was literally full of floating bodies, his vision in the O D V $=^{15}/_{200}$, O S V $=^{15}/_{60}$ I put him on kali iodid, 20 grains three times a day and increased it *until he reached* 60 grains three times a day, and bichlorid $^{1}/_{30}$ grain per day, increasing the doses until I gave him $^{1}/_{15}$ per day I also gave him the faradic current (eight cells) in each eye five minutes every day At the end of one month's treatment his vision was O D V $=^{15}/_{20}$, O S V $=^{15}/_{40}$, and he thought he was well enough to quit and went home

Case 3 —A man aged 30 Seemed to be in fair health, with no syphilitic history, ophthalmoscopic findings the same as the former case—the O D V $=^{10}/_{120}$, O S V $=^{0}/_{120}$ He gave this history His eyes had been failing for two years and he had been treated for months during that time without any benefit, but was gradually growing worse until his vision was growing so bad that he was almost compelled to give up his business, being a merchant I put him on the kali iodid and bichlorid in increasing doses as in the former cases, with a faradic current of eight cells applied to each eye every day In the meanwhile he told me, after taking the first dose of my medicine, that he had been taking this medicine and that he had no confidence in it, as he had tried it for nearly two years I asked him if he had had the electricity applied to his eyes before He replied, no I told him that we would watch the case for fifteen days, and if he was not improved by that time that I would not advise him to continue the treatment, at the end of that time, however, he had gained about 25 per cent At the end of two and a half months his vision measured O D V$=^{15}/_{60}$, O S V $=^{15}/_{20}$ He was dismissed, as he thought he had vision enough to get along with very nicely

I have reported three of the latest typic cases of this kind that I have had, but I could give you twenty cases, if necessary, in which this treatment has proven to be just as effectual as in the three cases I have reported

DISCUSSION

Dr F T ROGERS, Providence—I question the advisability of discussing the use of electricity when quoted in such indefinite terms as the writer of the last paper uses To say that you used twelve cells does not mean anything You may have a cell of 4 milliampères or one of 15 The milliampère is the important feature and not the number of cells used I have *used the galvanic current on my own eye as a matter of exper* iment and I find that 3 or 4 milliampères is all I care to stand Such generalities are worthless in a scientific report

Dr J E Minney, Topeka—Not knowing anything about the subject I may be able to give you some information It struck me the Doctor gave larger doses of anti syphilitics than the other fellows and that there was the secret of his success

Dr C E Norton, Lewiston, Maine—I do not know any thing about this subject but rise to make inquiry of the reader of the first paper I did not understand the direction in which he inserted the needle in his operation for pterygium I think, too, I understood him to say that he used the positive pole and got bubbles of gas around the needle According to my experience in electrolysis this would not be true, it would be the negative pole that gave the bubbles of gas, and the needle after having used this current would be extracted with some difficulty, as it would be held firmly by the hardened tissues

Dr Leartus Connor, Detroit—I have used electricity in a few cases of choroiditis, but I was not able to determine that it had any appreciable effect upon the course of the disease I am glad that somebody else has had success Possibly my method of using it was faulty I have not used electricity in the treatment of pterygii, but I shall be induced to do so by Dr Starkey's experience

Dr George M Gould, Philadelphia—My friend, Dr Alleman of Brooklyn, N Y, was several years ago interested in clearing up corneal opacities by electricity I visited him at about that time and he was very enthusiastic in showing me several cases that had greatly improved in vision On a visit there last year I asked him if he was still keeping up this treatment He said no, that the patients got very tired of the treatment before much could be accomplished, and gave it up through lack of patience and perseverance I believe he never applied more than two or three milliampères at one time

Dr R L Randolph, Baltimore—I would like to ask what experience the gentlemen have had in the use of electricity for removing eyelashes? My own experience is that it is painful and in many cases fruitless

Dr Melville Black, Denver—Some few years ago I read a paper wherein the writer describes the effects of the negative pole of the galvanic current for reducing tension in glaucoma I tried it on a few cases and think in one or two I could see an appreciable reduction In several other cases there appeared to be no action whatever and it was a waste of time For the removal of eyelashes the method is satisfactory enough if you can keep the lids quiet, but that is hard to do

Dr T A Grigg, Butte, Mont —I have had quite a little experience with the electric needle in removing cilia and wild hairs In some of my cases the results have been very satisfactory and in others not so much so In one case of wild hairs it seemed to me that for every one I killed two came to the funeral I usually find that by using 5 per cent cocain solution applied to the lids on absorbent cotton and then using a fine needle with a stop on the handle so that you can keep the lid still by drawing it up while the current is being turned on I get very good results I use a magnifier to see where the needle is going in and have the patient hold the sponge in the hand corresponding to the same side being operated upon In a second or two I get a few bubbles, and then with a pair of cilia forceps I can easily extract the hair If it does not come easily it will generally recur, and it takes a good while to make a complete cure

Dr J O McReynolds, Dallas, Texas—With regard to the question asked by Dr Randolph I have had considerable experience but I have not used this method so much during the last three years as I did previously My main reason for discontinuing it was the intense pain produced The operation can be perfectly successful in removing the cilia and they will not return if thoroughly removed My method is to have the patient hold the positive pole in one hand and steadying the head I insert the needle well down beside the hair turn on the current gently and wait until the bubbles rise round the hair, when I can pull it out with my fingers If the hair is still sufficiently firm to require forceps it will generally recur The bubbles will always appear if the needle is in the hair follicle

Dr Grigg—Can you always remove the hair with the fingers?

Dr McReynolds—Yes, if I have done the work properly The smaller the hair, of course, the greater the difficulty in removing it

Dr J L Thompson, Indianapolis—I reported a case some years ago in Knapp's Archives, which I might refer to to impress upon you the importance of using the positive pole It was a case of cure when I knew nothing about the use of electricity and I must say my method was a good bit like operating upon a cataract with a nail

Dr Hinckley—I use a 20 per cent solution of cocain, with 10 per cent carbolic acid, inject about 2 drops, and have no pain in removing lashes

Dr H M Starkey, Chicago—At the outset of this paper I thought to make a brief review of the general uses of electricity but later concluded it must be restricted to three things, the use of electricity in trichiasis in ocular neuralgia and in pterygium, and finally it was found that the latter alone would take all the time given for the paper

It is well known that it had been recommended to use the negative pole in glaucoma I can see a rational reason why the negative pole, which through cataphoric influence tends to withdraw fluids from the tissues should lessen tension, and I can readily see how by reversing the current we might in some cases favor glaucoma Especially in elderly people have I on this account been careful in the use of electricity

As to the question of gas appearing at the positive pole, we know where the gas comes from when electrolysis is used If the poles be placed in water decomposition of the latter occurs, hydrogen appearing at the negative pole and oxygen at the positive—twice as much, however, of the former as of the latter When the platinum needle is used and the current concentrated at the point we get a liberation of gas through decomposition of water and the tissue salts at that point and may have corrosion of the needle

I have used the negative pole in some cases to assist in dissolving off cicatrices In these cases of corneal opacities we use the negative pole, because we desire its dissolving action The first case I used it upon was a man, who, through an explosion, had lost one eye, and the other seemed to be in a hopeless condition By using 1 or 2 milliampères at a time for a period covering the greater part of a year, sufficient vision was secured that he was able to do a certain amount of work and later he became a gatekeeper at the shops where he had formerly worked He could also read coarse print I have not used it very much of late, but would again in a similar case to that

The direction of the needle in operating upon pterygium is at right angles to the growth or in other words it is passed in the same direction that the knife is passed in an excision

Dr R L Le Mond, Denver—I felt almost sure that I would not have a great many to agree with me on this paper and I am sorry that Dr de Schweinitz is not with us, for he has given this subject much attention and claims that it has been very beneficial in his hands

I have used the potassium iodid and the bichlorid of mercury in a number of cases without any practical results at all, and in one of these cases I used it until the patient continued to grow worse, and saying that she had gone blind under the identical treatment and had no confidence in it I put her on electricity I used the faradic current and she began to improve at once

I do not think we understand as much about electricity as we should In galvanism one pole is negative and the other less so while in faradism one pole is positive and the other less so That is the difference in the two kinds of electricity As regards the number of cells, I understood the instrument maker that each cell represented 5 milliampéres

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PHLYCTENULAR KERATITIS

Presented to the Section on Ophthalmology at the Forth ninth Annual meeting of the American Medical Association, held at Denver Colo, June 7-10 1898

BY DUDLEY S REYNOLDS, A M, M D

Professor of Ophthalmology, Otology and Medical Jurisprudence in the Hospital College of Medicine, Medical Department of the Central University of Kentucky Surgeon to the Eye and Ear Department of the Louisville City Hospital, Surgeon to the Gray Street Infirmary, etc

LOUISVILLE KY

At the meeting of the AMERICAN MEDICAL ASSOCIATION in 1893, I had the honor to introduce the subject of phlyctenular ophthalmia My paper elicited extended discussion, embracing many divergent views both as to etiology and treatment The result of that discussion determined in my mind the necessity of more painstaking observations For reasons beyond my control, I was not able to begin my work until August, 1894, and I am now indebted to the painstaking labor of my friend, Dr Travis A Bullington, for the first part of what I intend to be a continuous series of observations concerning the nature, causes, and the treatment of phlyctenular ophthalmia

The first series of observations by Dr Bullington, and which I have the honor now to present for your consideration, is taken from my clinical record at the Hospital College of Medicine, beginning August 25, 1894, and extending through the first one thousand names on the list at my clinic These persons have been kept under observation for a period of three years, ending August 24, 1897

CASES OF PHLYCTENULAR KERATITIS

Occurring in one thousand consecutive names on the Clinical Register of Prof Dudley S Reynolds at the Hospital College of Medicine, Louisville, Ky, beginning August 25 1894, compiled by Travis A Bullington, M D

No	Age,	Sex	Race	Present Complications	Recurrent Conditions
1	19	M	C		Phlyc conj
2	25	F	C	Phlyc conj,	
3	4	F	W	Phlyc, conj eczema nasalis	Bleph marg
4	11	F	C		Phlyc conj
5	2	M	C		Phlyc conj
6	20	F	W		
7	4	M	W	Bleph marg	Bleph marg
8	32	F	W		Phlyc conj
9	28	F	C		Iritis and phlyc conj
10	3	M	W	Phlyc, conj eczema nasalis	Bleph marg
11	14	F	C		
12	10	F	C		Phlyc ker
13	3	M	W		
14	47	F	C	Phlyc conj	
15	5	F	W		Phlyc, conj and bleph marg
16	55	F	W		Phlyc conj
17	17	F	C		
18	56	F	C	Phlyc conj	
19	57	F	W		Phlyc conj
20	1	F	W,	Bleph marg et ecz nasalis	
21	20	F	C		Phlyc conj
22	2	F	W	Eczema nasalis	
23	18	F	C	Phlyc conj	Phlyc conj
24	3	M,	W		Eczema nasalis
25	2	M	W	Phlyc conj et bleph marg	
26	3	M	W		
27	16	F	W		Phlyc ker
28	27	F	W	Bleph marg	Bleph marg
29	10	F	W	Eczema nasalis	Phlyc conj and bleph marg
30	14	F	C	Phlyc conj	
31	12	F	W		
32	9	F	W	Phlyc conj	
33	8	M	W	Bleph marg ecz cap et Facialis	Bleph, marg eczema nasalis
34	2	F	C	Phlyc. conj	
35	34	F	C		Phlyc conj (2)
36	12	F	W		Phlyc ker et conjunctivis
37	29	F	C		
38	1	F	W		
39	5	M	W	Phlyc conj	
40	20	M	C		
41	3	F	W		
42	35	M	G	Phlyc conj	
43	30	F	W		
44	18	M	W		Phlyc conj et eczema nasalis

There are in this list 44 cases of phlyctenular keratitis In 12 of these cases phlyctenular conjunctivitis coexisted at the time of registration In 14 of the cases phlyctenular conjunctivitis subsequently appeared at varying periods of two to twenty-seven months from the date of the first attack In but 3 of these people did keratitis reappear In 5 eczema nasalis was present as a complication at the beginning In 2 other cases it appeared subsequently In 5 persons blepharitis marginalis was present as a complication in the beginning In 3 other persons blepharitis marginalis occurred subsequently In 1 case iritis, with phlyctenular conjunctivitis, appeared twenty-one months after the phlyctenular keratitis In the whole 44 persons not one received any local treatment, whatever, during the continuance of the phlyctenular keratitis The greatest period of treatment extended through three weeks, the shortest period five days In every case bichlorid of mercury, and sulphate of quinin were relied upon, with such additions as were suggested by complicating states of the patient's general health, constipation being overcome by saline aperients, and by regulation of the diet and habits of the patient Those cases amenable to discipline, and which could be traced after a lapse of three years' time, are alone included in the table Happily there are no more than three in the list of a thousand persons which had to be eliminated from Dr Bullington's record

Under the head of recurrent conditions, will be found diagnosis in each case, on subsequent return to the clinic after recovery from the first attack In every case lymphatic engorgement, or other manifestations of the strumous diathesis were present Blepharospasm and photophobia were often relieved by a single dose of Rochelle Salts or an antiperiodic dose of sulphate of quinin A child of from seven to fourteen years of age, after an aperient, may take a single dose of 10 grains of sulphate of quinin, with marked amelioration of the condition of the eye The subsequent treatment should include both mercury and sulphate of quinin, in minute doses For a child under ten years of age, 1/10 gr of sulphate of quinin, and 1/50 gr of bichlorid of mercury may be given together every hour, every two hours, or every three hours, according to the intensity of the blepharospasm and photophobia Above ten years of age, ½ gr of sulphate of quinin should be given with 1/50 gr of bichlorid of mercury, every hour, every two hours, or every three hours, according to the urgency of the symptoms

Eczematous eruptions of the face and scalp yield readily to the application of ammoniated mercury Similar eruptions in the anterior nares are relieved by a mixture of yellow oxid of mercury ointment, and liquid pitch, whilst mucopurulent inflammations of the Schneiderian membrane demand the use of sprays, the best of which contain bichlorid of mercury, and chlorid of sodium Where a tendency to inspissation of accumulating matters in the nasal passages exists, a powder composed of borate of sodium ½ ounce, chlorid of sodium 10 gr, camphor 15 grains may be advantageously employed as snuff frequently during the day Children under 12 years of age, however, are not likely to use the snuff, in such cases an aqueous spray of borate of sodium 2½ drachms, chlorid of sodium ½ drachm, distilled water 8 ounces, camphor water and mint water, each 4 ounces, carbolic acid in crystals 4 grains This mixture makes a most agreeable spray, and is valuable not only as a cleansing fluid, but is soothing and agreeable to the sensibilities of the patient, and the child which at first rebels at the spray, will usually in a day or two, not only yield without contest, but often seek the application

To sum up, I wish to say that Horner's notion of the relations existing between eczematous eruptions of the skin and anterior nares to the phlyctenular diseases of childhood is not always apparent, but nearly constant The conditions which predispose to these local disturbances are essentially constitutional, and no local treatment is, in any large proportion of cases, to be regarded with favor Per contra, constitutional measures are of the first importance, and may alone be relied upon, even in complicated cases, so far as the eye is concerned as a participating organ

DISCUSSION

Dr C R Holmes, Cincinnati—I am very glad to have heard this most excellent paper We all know that unless we treat this class of cases as Dr Reynolds has outlined it, the results are not very satisfactory We have all of us had cases come from very good men who treated them without any results because they neglected the nose and the constitutional symptoms and relied too much upon local treatment I have been following for several years the same routine treatment, though using perhaps a little more local treatment than Dr Reynolds called attention to, and I also like to use in this class of cases a weak solution of eserin, with cocain I do not use atropia except in rare cases I use eserin, $\frac{1}{10}$ of a grain to $\frac{1}{2}$ ounce, and a 2 per cent solution of cocain, having it instilled into the eye two or three minutes before the salve is applied, because the cocain will enable the parents to put the salve in better than they could otherwise do

Dr J L Thompson, Indianapolis—This paper is much more valuable than a consideration of 500 cases of cataract operation In our section of the country we have phlyctenular keratitis from spring until late October This is especially so with children, and I find that constitutional treatment is above all others If the patient can stand it I have them change climate, make a trip to Bayview or Petoskey It is astonishing, also, how a change of diet helps With a correction of diet, and after three or four days of a changed climate they report favorably, while if compelled to keep them in Indianapolis they hang on for a long time

Dr T A Grigg Butte—Do you ever notice that these elevated spots on the eye sometimes break down to form ulcers?

Dr Thompson—Yes, frequently, and if they stay in a hot climate they will persist for a long time

Dr Boyd—We have with us a great deal of this disease, and I want to say one thing in the line of treatment We are always compelled to use quinin I think we always have in these cases some malaria, and quinin and arsenic should be used in the treatment I should think the use of eserin or atropin would depend upon the location of the phlyctenular We ought to be very careful as to the use of cocain in our treatment and if used it should be in very small doses

Dr E C Ellett, Memphis—I come from a district that is very malarious, being low and damp, and I would not give much for anybody's diagnosis of a malarial condition unless it is confirmed by an examination of the blood While we give small doses of quinin, it is done as a tonic, and I should like to know whether or not these gentlemen have verified their diagnosis of malaria by examination of the blood and, if so, what form of the organism they found Dr Ziegler once said before this section, "No tea, coffee cakes or candy,' and that comes mighty near covering the things in diet that should not be allowed

I do not see many cases of phlyctenular keratitis or conjunctivitis that run a course of three or four weeks, most of them being over in one week With regulation of the diet, attention to constitutional treatment and the local use of the yellow oxid ointment they get along very nicely I have seen a great many cases of this trouble among negroes we can not send to another climate Those practicing ophthalmology in the south know that corneal troubles are particularly common among this race, and this disease is especially common among negro children

Dr Leartus Connor, Detroit—As bearing upon the remarks of Dr Thompson it occurs to me to report that in Detroit we have very few cases of phlyctenular disease and very many less since our Island Park was opened some seventeen years ago It is an island of 700 acres in the center of the Detroit River, and children of families in moderate circumstances are taken there in large numbers and very frequently It is for them a Petoskey or Bayview A point that occurs to me is that the keeping of those children out of doors as much as possible has aided materially in their improvement, and another observation along the same line is that in our children's hospital, which is one of the most perfectly lighted and ventilated buildings that I know of, the children recover from this affection in a very small fraction of time compared to what the same case would do in the private home There the children are so cared for as to be made happy, whereas in most of the homes they come from the mental depression produced by the surroundings is disturbing to the reparative process

Concerning the local treatment, while in former years I used eserin and am not entirely opposed to it now, I find that the use of atropin seems to be more satisfactory in allaying the pain and irritation, so I have almost stopped the use of eserin and cocain

If we could make the conditions of child growth anything like what they ought to be these cases would not occur

Dr H B Young, Burlington—I agree with what Dr Connor has said and with what others have said concerning the constitutional treatment, but we should not overlook the blood making qualities of small doses of calomel I have found more benefit from the use of this drug in small doses than from any other treatment Of course, properly speaking, mercury is not a blood maker, but in these cases we have a condition of mal nutrition, with poor digestion, and the intestinal secretions are interfered with in some way or other, so that small doses of calomel, avoiding the cathartic effect, bring about rapid improvement

As to the use of the yellow oxid ointment most of your prescriptions bring forth a preparation that ought never to be put between the patient's eyelids, and it is due to the imperfect method of making it I usually prepare mine myself I take the yellow oxid, put it on a slab with my menstrum, white vaselin, and mix them, rubbing it and rubbing it with a spatula, always allowing the spatula to clean itself by continued rubbing, and I get a smooth preparation

Dr Melville Black Denver—We do not see many cases of phlyctenular keratitis in Denver, but we are not free from it One thing I have noticed is, if pains be taken to trace the cause, that these children are universally spoiled and have been allowed to take anything they pleased to eat and to drink coffee and tea at a very early age I believe that bad feeding is responsible for nearly all the cases we see

I want to call attention to a very nice base for the yellow oxid ointment, known as cold cream or rose water ointment It is as you know, an emulsion of white wax and rose water with a small amount of oil It is better than vaselin alone because it mixes more readily with the tears and does not flow out of the conjunctival sac It is harder and does not [illegible] in summer as does vaselin

Dr J L Hiers Savannah—I listened to [illegible] paper with interest because I come from a malarious district where we have a great deal of such troubles, and I heartily indorse the constitutional treatment outlined, but I would like to add something to the local treatment It is my custom to give the yellow oxid of mercury ointment before the phlyctenular breaks, but after it breaks down I treat the ulcer with iodin My mode of application is to cocainize the eye thoroughly, scrape the ulcer with a spud and apply the iodin on a small cotton tipped probe After this I wash the eye with saturated solution of boracic acid and to overcome the reaction as much as possible and set the eye at rest, a good sized pledget of cotton is saturated with this solution and applied to the eye with a bandage The eye is kept closed for from six to twelve hours and I rarely find it necessary to use atropin My first experience with iodin in the treatment of corneal ulcers occurred about three years ago and I find that it seems to destroy the germs and convert the ulcer into a healthy wound

Dr Flavel B Tiffany, Kansas City—I have had a great many cases of phlyctenular keratitis in my practice I very rarely go to my clinic without finding one or two cases of this disease I have never regarded these cases as being of a malarious nature, but rather as being strumous You always find them among the poorer class of people and often in the offspring of syphilitic parents I never use quinin in the treatment of these cases, nor do I think as a rule it is indicated Phlyctenular keratitis is not ulceration of the cornea, it is papule not pustule The phlycten contains a fluid and that fluid probably contains a specific bacteria, I believe it is claimed by some that they have found the specific germ Mercury not only acts mechanically in rupturing the phylcten, but it acts further as a germicide I also use atropin and cocain but as systemic treatment I rely almost entirely upon the syrup ferri iodidi, with cleanliness, good food and good air

Dr R F LeMond, Denver—Dr Reynolds was my first teacher on the eye and I always love to hear him talk for he always means something

I believe that this trouble is due very largely to malnutrition and lymphatic engorgement Invariably they occur in children whose parents are not strong and I think it would be irrational to treat these conditions without resorting to constitutional remedies I practiced medicine in Texas a good while and saw much of this trouble there I found the children suffering with general engorgement of the whole lymphatic system and if that is corrected by small doses of calomel and they then be put on a good tonic like iron, quinia and strychnia, the phlyctenular trouble soon disappears For local treatment I prefer a wash of 1 to 15,000 or 1 to 20,000 bichlorid, to be followed by a saturated solution of boracic acid If the phlycten is trying to mature into an ulcer I use atropia unless I see some chance of cyclitic engorgement Eserin often acts nicely in these cases where there is much photobia

Dr J O McReynolds, Dallas, Texas—It seems to me the discussion has taken a turn that is exceedingly important, and I feel that I ought to emphasize the remarks made particularly by Drs Thompson and Conner regarding the sanitary condition of the patients My own experience has been that we have only a little phlyctenular trouble in Dallas, and when we do have it I seldom see a case that is obstinate I have noticed that there was a marked contrast with the large amount of phlyctenular troubles in other cities, and I attributed it to the fact that we have a salubrious climate where the children live out of doors a great deal All of the recognized forms of treatment, it seems to me, are entirely satisfactory in Dallas, for the cases generally get well in a few days with different forms of treatment

Dr J E Minney, Topeka—I thank Dr Reynolds for this practical subject It is almost invariably our practice to give 1 grain of calomel in ten tablets, one of these to be taken every hour, and in addition we dust the phlycten with the mild chlorid and it disappears like snow before the morning sun Respecting the blood making power of calomel, I think it has been pretty well demonstrated that in 1/10 grain doses, given three times a day, it will increase the red blood corpuscles

I am very much pleased to learn how to make the yellow oxid ointment We have in Topeka a hundred druggists, and perhaps three or four make it properly

Dr W C Bane, Denver—It is my habit to order the oxid of mercury rubbed up with a drop or two of olive oil, then with lanolin or vaselin

Dr C E Norton, Lewiston, Maine—In our country we have no malaria, so that can not be a cause for our phlyctenular keratitis We use quinin in the State of Maine only as a tonic, unless our patients have come there from a malarious region The majority of the cases I have had occurred among the poorest children in town, who did not have proper nutrition The question of what should not be given has been brought up, but nothing was said about the kind of food the children should take One of my instructors, Dr C R Agnew, used to prescribe the food the children might take, and it consisted of bread and milk

As to bandaging the eye, it seems to me that is bad treatment I am careful to do all I can to get the children to open the eyes, and for this reason I believe that cocain is of sufficient benefit to counterbalance its destructive influence upon the cornea

Dr R L Randolph, Baltimore, Md —In all forms of keratitis, especially the phlyctenular variety, we have irritative symptoms In phlyctenular keratitis we have exposure and inflammation of the nerve endings and as a consequence spasms of the accommodation and contracted pupil It would seem that eserin in such cases would only intensify this condition Complete rest of the accommodation and removal of the irritative symptoms is demanded, an end which is best obtained through atropin The more he employs eserin the more he is convinced of its very limited usefulness outside of its value in glaucoma

Dr Reynolds—I am very much complimented by the character as well as the amount of the discussion In a brief paper a man can not bring out all the points he might consider essential I am so well known as a crank on the subject of foods and digestion that I refrained from mentioning much that I perhaps should have said on this subject I believe, as Dr Norton said, that when we have to deal with a case that is badly fed and wants to eat sweet things, which I always forbid, that a diet of bread and milk is best for the child I frequently prescribe alternate cupfuls of malted milk and beef tea, and I prefer the Armour extract of beef because I find it of uniform quality and reliable strength I am one of the few that believe in beef tea for its nutritive value and do not consider it as merely a stimulant I insist that the child should have plenty of pure water and fresh air and if it buries its head in the pillow it is all the more reason why it should be taken out of doors I give the mercury not because it makes blood, for I know it does not, but because it relieves the engorged glands, and I use quinin, not because of any malarial condition, but because it is a reliable stimulant of the emunctory organs It is more reliable and less debilitating than any other sudorific and diaphoretic known to me

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Adenoid Vegetations—G Zimmermann attributes the etiology of recurring pseudo croup to adenoid vegetations, and states that in his experience, extirpation always cures the croup Bilhaut also emphasizes the frequency of curvature of the spine, scoliosis, kyphosis and lordosis in children affected with adenoid vegetations, and has observed all these troubles vanish after their removal He claims that this should always be the first step in the treatment of any defective development of the spine or thorax Lauffs has also recently reported the cure of a distressing case of prolapsus ani in a boy of five, cured by removal of his adenoid vegetations —*Munich Med Woch* , July 12 and 18, and *Vienna Klin Woch* , July 14

THE USE OF FORMALIN IN THE TREATMENT OF BLEPHARITIS

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo , June 7 10 1898

BY H MOULTON, M D
FORT SMITH ARK

During the past year I have employed formalin in all cases of blepharitis To apply it I use a tooth pick with a small cotton mop wrapped on the tip so that it does not take up enough solution to run into the conjunctiva The solution is made of the strength of 2 per cent to 1 per cent, beginning with the weaker It must be frequently renewed or prepared extemporaneously at the time of using, in order to insure uniformity of strength

The lid is drawn away from the eye ball The mop dipped in the solution is rubbed gently along the margin among the lashes until all the scales and crusts are removed and until the surface of any little pustule is rubbed off The site of disease is thus left clean and smooth The mop is renewed a time or two during each operation A little bland oil may be applied afterward, or the formalin may be used in the oil The applications are made daily if possible by the physician's hands Otherwise they may be made by the patient at his home

The correction of all retractive errors I hold to be of prime importance, likewise the improvement of local or general conditions which may predispose the margins of the lids to disease With these precautions taken, it is gratifying to note how rapidly patients will improve under formalin treatment It will invariably improve all cases and cure many of them Some of those cured will relapse, but a renewal of treatment again relieves them Several of my cases had been treated by myself by other means with little or no benefit, but improved rapidly under formalin

One, a school girl, had been under observation for six years She had been treated for two months by an eminent man in St Louis, and for various periods by myself with the full catalogue of salves and solutions, without result In one month under formalin the edges of the lids were smooth and white, and have remained so for four months, though the girl continued in school

Another case was that of a young lady whose blepharitis had produced a trichiasis, requiring the Hotz operation for its relief, the blepharitis having been previously cured with formalin From January to the present writing her lids have remained well Other agents than formalin had proven valueless

A clergyman, aged 27, had worn glasses and been treated for many years for blepharitis without a month's relief A month's use of formalin left his lid margins healthy They remained so from July, 1897, till April, 1898, when with over-use of the eyes he suffered a relapse, which again yielded promptly to formalin

Some cases do not seem to get entirely well for longer than a few days but the use of the formalin is so effective in keeping the disease in check that such patients are glad to keep up its use by their own hand I do not wish to say that I have not found benefit in many cases from the use of other drugs or that formalin is a permanent cure, but the proportion of cases benefited and the measure of relief afforded by this remedy is so vastly superior in my hands to other remedies, that I cannot do otherwise than call attention to it

521 Halliwell Building

AN UNUSUAL CASE OF RUPTURED TUBAL PREGNANCY, OPERATION AND RECOVERY

Presented to the Section on Obstetrics and Diseases of Women at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY J E COWLES, M D
LOS ANGELES CAL

This case of tubal pregnancy is worthy of record on several accounts First, because of its early rupture, being but about four weeks advanced in pregnancy, second, because of recovery from such a dangerous state of collapse as occurred during the operation, and third, on account of the severe complication—left lobar pneumonia—which set in on the second day after the operation, and would seem to have barred what little chance of recovery was still left to the patient

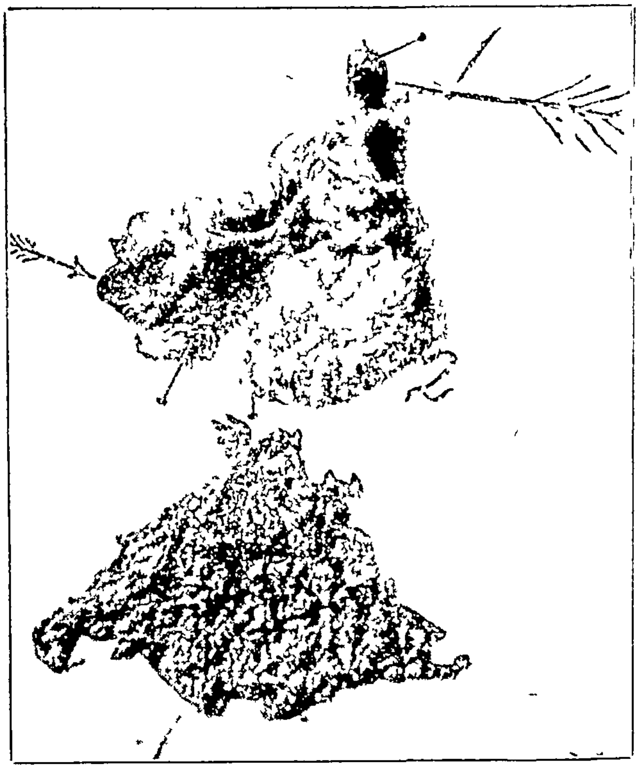
Mrs M L J , American, age 30, married seven years, mother of two children, never had a miscarriage, abortion or any serious sickness before this, but was delicate in childhood Began to menstruate at 15 years of age and first suffered severe pain with her periods at 17, which *continued until after the birth* of her first child, when the pain lessened in duration and severity, lasting only during the first day, where previously it had continued two or three days Has always been fairly regular, but on several occasions went over a week, and once last inter ten days Her last period, before this accident, began n January 20 and continued for a week as usual During February she felt well, no nausea or other symptoms of pregnancy being noticed, except swelling and tenderness of the breasts, which always occurred as her menstrual period approached, and consequently did not impress her as auguring anything unusual On March 1, 1898, at 10 30 A M , while sweeping a room, she stooped, and while in that position was seized with a severe pain I saw her at 2 P M and observed her ghastly pallor and look of distress, not a particle of color in cheeks or lips, pulse 110 and thready, respirations rapid and shallow, temperature subnormal, abdomen very tender and the patient evidently suffering exquisitely I gave hypodermically a combination of atropia and morphia containing a quarter of a grain of the latter, and repeated the dose in half an hour, no relief having been experienced This making the pain tolerable, I left 1/10 grain morphia to be given every hour until my return I returned at 5 30 P M and gave another 1/4 grain dose of morphia hypodermically, the pain continuing atrociously severe, being steady rather than of a spasmodic character Bimanual examination revealed nothing of a positive nature Being satisfied that a severe hemorrhage had taken place thinking that it came from a ruptured tube, counsel agreeing with me, I proposed operation for an early hour next morning, but the patient declined, until her mother could arrive that night Accordingly, at 8 o'clock the following morning, a celiotomy was done in the patient's bedroom, with the best antiseptic precautions available, but with the dangers and difficulties usually attending operations in private apartments, not the least of which, from the patient's standpoint was a cold room

The recorded temperature of patient at 6 A M was 96 6 degrees F with pulse at 118, small and thready, although fortified beforehand with strychnia and digitalis

Patient being etherized, I made a three inch incision in linea alba just above the pubes On reaching the peritoneum it pouted into wound and showed dark underneath On opening it dark blood squirted upward several feet A quart or more of liquid and clotted blood was removed and a rupture in the right tube, close to uterus was discovered After tying off tube and ovary on right side, the left was brought up examined, found healthy and dropped and the toilet of peritoneum about completed, when considerable oozing of blood from stump and broad ligament was noticed Great difficulty was experienced in controlling it final resort being had to the cobbler stitch with catgut Abdomen was closed without drainage the peritoneal cavity having been filled with normal salt solution When the operation was completed, the patient was in extremis, with a pulse of about 180 and almost imperceptible at wrist

By the aid of hypodermics of strychnia, atropia, digitalin and nitroglycerin given to the limit of safety and enemas of hot salt solution, coffee, whisky and aromatic spirits of ammonia, the patient reacted and at 6 P M exhibited a pulse of 138, of fair tone and volume and a temperature of 100½ degrees F , respirations 30 March 4, 6 A M (next morning), pulse 120, temperature 100½, respirations 30 , March 4, noon, pulse 122, temperature 101½, respirations 30 , March 4, 3 P M , pulse 140, temperature 102⅘, respirations 32 , March 4, 10 30 P M , pulse 137, temperature 103⅕, respirations 36 (At this time the decidual membrane shown in the photograph appended was expelled from the vagina, no shreds or bloody discharge being noticed before)

March 5, 6 A M , pulse 136, temperature 102½, respirations 38 with some cough. Examination revealed crepitant râles at base and posterior part of left lung From this date to the 14th as a complication of the already serious condition, there was a typic left lobar pneumonia, the pulse gradually coming down to 118, at which it stood on the latter date After March 14 there was practical defervescence, with the patient rapidly improving in strength and looks About this time every alternate suture was removed from the abdominal wound and the balance a week later No suppuration or trouble of any kind occurred about wound or sutures, silkworm having been used externally and the patient was sitting up in three weeks from date of operation



1 Fimbriated extremity of tube 2 Ovary 3 Point of rupture of tubal pregnancy 4 Decidual membrane surface of attachment to uterine wall

April 22 her period reappeared with the usual pain and lasted a week May 7 inspection of the abdomen revealed a firm scar, two and three fourth inches in middle line just above pubes and natural contour of the abdomen Bimanual examination shows uterus of normal size, slightly anteflexed and freely movable *without pain* May 23 began a repetition of pain and period with usual length of flow The specimens being hardened in formalin solution, were submitted to Dr Stanley Black, pathologist, to whom I am indebted for a careful examination, and who reported the following I have examined the specimens, find chorionic villi in the Fallopian tube and decidual cells in the membrane

I append a photograph showing the specimen before mutilation No 1 points to the fimbriated extremity of the tube No 2 is the ovary, apparently normal in every way No 3 indicates the point of rupture, and just above No 4 is seen the decidual membrane, presenting its shaggy surface of attachment to the uterine walls

If I may be allowed a few observations in regard to this case, I will recall to your attention the fact that from the last day of menstruation, January 27, to March 1, the day of rupture, is but twenty-nine days From quite a search of the literature of these early cases, I have been unable to find a case of so early rupture as this, though I doubt not for an instant they may have occurred even earlier One of the earliest cases that I have run across is one of five weeks reported by Tait, in which death occurred in seven and one-half hours from hemorrhage, the rupture, as stated by him, from which the fatal hemorrhage took place not being larger than a pea As diagnosis and treatment are the most important considerations in all pathologic conditions, they are practically the only ones in this class of cases If one waits for a classic array of symptoms and refuses to operate until such an array is present it is my opinion that the patient is to be commiserated on account of her too conservative (?) medical attendant Dr Henrotin says "The diagnosis of primary complete rupture prior to the seventh week is the diagnosis of intra-abdominal hemorrhage "

Given a woman just previously in a state of health within the child-bearing period, with the physical signs of internal hemorrhage and the characteristic pains, if she be conscious, even though no coincident signs of pregnancy exist, I maintain that the medical attendant is not only justified in, but criminally negligent if he refrains from, operating (i e, making an exploratory laparotomy), thus increasing the woman's chances of recovery and demonstrating true conservatism, the conservation of life, always premising a fair degree of skill in the operator and a strict adherence to the details of asepsis and antisepsis Dr E S Boland of Boston in an excellent article on this subject "from the standpoint of the general practitioner," courageously remarks "although I have never performed a laparotomy, I should not hesitate to attempt it if I met one of these cases so remote as to require many hours to get greater skill," and concludes, "that prompt laparotomy after rupture is the only safe and conservative course " I think in a case such as the one reported, where the time on the operating table should be as short as possible, that it would be better to quickly remove the hematoma and bring together healthy surfaces with continuous catgut sutures, not removing tube and ovary if not otherwise diseased, and thus save an amount of added shock that might prove fatal It goes without saying, that the interests of such cases as this are better conserved in a hospital or sanitarium, for I am sure that the pneumonia here reported resulted from the too cool rooms, and the danger of transportation thither will no doubt be doubly compensated to the patient by the better operating facilities and comforts there to be had

As to the frequency of these cases compared with those of natural pregnancy there can only be surmise One author reports from his own experience 1 in 170 cases of normal pregnancies, while another reports 1 in 1500 cases Again, as to which tube is most frequently impregnated, that is, I dare say, purely a matter of accident, but I have noted in my search for these cases that it has most frequently occurred on the right side, and merely record the fact without attaching significance to it When we consider the large mortality of these cases if left to nature or medication (see Baldy's report of Formad s autopsies) and the brilliant results obtained by the early operation, we are constrained to recommend the rule When in honest doubt, operate In a letter dated April 22, 1898, Dr M D Mann of Buffalo, N Y, writes me "I have operated forty or fifty times for that condition, four times within the last three weeks, and so far all have recovered except one, which was operated on through the vagina " This brings up the question as to the choice of route by which to reach the diseased condition In *recent* cases my own choice is for the abdominal route, as giving one absolute control over hemorrhage and enabling him to see all that is to be seen and if vaginal drainage is desirable it can be easily added

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THE INFLUENCE OF SEX ON DISEASE

Presented to the Section of Obstetrics and Diseases of Woman at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo , June 7 10 1898

BY LOUIS FAUGERES BISHOP, M A , M D

NEW YORK

Curiously enough, while the tendency in modern civilization is to eliminate the distinctions in the political and economic status of men and women, that of medicine has been to exaggerate the natural difference of the manifestation of disease between the sexes

The object of this essay is not so much to show how many as how few are the differences The influence of sex on the course of general disease is wholly a matter of soil and environment, that is, the disease is the same, with the same tendencies and possible terminations, but modified by the constitution of the person and not by sex Granted that individual constitution does affect the course of disease, we must determine whether its characteristics differ according to sex, or whether they differ among individuals regardless of sex To predict our conclusions it will be found that the course of general diseases is not affected materially by difference of sex, except in a few instances that are easily defined and pointed out Apart from variety of occupation and greater or less exposure there are few factors which alter the percentage of men and women who acquire infectious diseases Typhoid, typhus and the exanthemata affect the sexes equally

Mortality is indeed greater among males when pneumonia is considered, but that is undoubtedly due to the greater abuse of stimulants by men In diseases of the nervous system the effect of sex upon the form of disease is more marked Men are more liable to the structural diseases, especially sclerosis, while women are more liable to functional disease As notable as any is the predominance of Graves' disease among women Especially is this marked when we include in Graves' disease many cases of tachycardia in which the eye and thyroid symptoms are not markedly developed The inference is therefore justified that, barring pelvic disease due to organs belonging exclusively to women, and those nervous diseases traceable to the acknowledged greater instability of her nervous system, the manifestation of disease in woman does not differ markedly from that seen in man under similar circumstances Nor can it be said that the influence of the pelvic organs in one sex has a much greater tendency to reflex manifestation in distant organs than those of the other

The influence of sex on disease as depending chiefly upon habits of life is well illustrated in the case of cardiac lesions The quieter life eliminates much of the danger of strain In women, who, as a class do not abuse alcohol, there is less tendency to arterial disease, and to all those symptoms that follow arterial sclerosis In old age the factor of arterial degeneration is apt to be less marked In young women the tendency of the sex to chlorosis should influence diagnosis, prognosis and treatment of patients presenting cardiac and pulmonary or nephritis symptoms Thus in a young man, dropsy of the feet would be more readily thought to be of kidney origin than in a young woman

The tendency to specialism is to treat the male and female as separate species This is so grave an error that it has seemed worth while to point out that men and women have most points of physical constitution in common, with only those modifications necessary to distinguish sexual function The diseases of infancy are exactly the same in both cases, the cardiac, pulmonary renal, gastric and most general diseases are the same Nervous diseases are indeed modified by a higher degree of direct and reflex excitability of the nervous system, but rarely by any disease of the uterus or ovaries Indeed, the belief is well founded that neurasthenia and hysteria are often aggravated by local therapeutics directed to their cure

It can be stated on the authority of nearly all those competent to study epilepsy from the neurologist's point of view, that this disease is hardly ever cured by operation The uterine and ovarian element in the general diseases of women is largely, at the present time, the unnatural growth of distorted public opinion, that has been led to attribute many conditions to local diseases of women, that are, in fact, common to both sexes, or at least only modified by the natural difference in general physique and nervous organization The fact that women are more liable to functional nervous disease is not due to disease of the pelvic organs, but easily and wholly traceable to the physiologic difference of the general nervous system So the appreciation of the difference in the course of disease in individuals, of whatever sex, need only be modified, as it always is by the variation of constitution, whether between one man or another, or one woman and another, or between a man and a woman A woman leading a healthful outdoor life, with her muscles in use and her muscular tissue thoroughly active in its oxygen-absorbing and heat-producing functions, is more of a man in one sense of the word than the confined, undeveloped and anemic city clerk This difference in physical stamina between the sexes is not due to the influence of any set of organs, nor is it to be modified by any degree of health of these organs that can be attained independently of the rest of the body What small difference there is in disease is due to the minor difference in nervous irritability, but far more to the influence of habits of daily life

The influence of sex upon the course of internal disease is not therefore to any great degree influenced by sex, as such, but by the influence on disease of those external conditions which are common to both sexes, but which by custom may have come to predominate in one sex or the other Thus a woman is more protected from violent accidents, exposure to the weather and suffers less frequently from the results of alcohol, tobacco and some of the infections On the other hand, she is more liable to the evils of a sedentary and confined occupation, and the abuse of tea and sweets is much more frequent These circumstances are not n [illegible] ccom paniments of sex, because they are reversed in a great many individual cases

In the same way with character The female character and the male character, as composites of persons grouped by sexes are undoubtedly different, yet it is not a question of sex but of character So the course of disease in individuals is a question of constitution, not of sex

In therapeutics it will be those measures that most tend to overcome the deficiency of general vitality manifested in the circulation, nutrition and blood formation of women that will be most successful in removing the symptoms now so often referred to a trivial local disease that frequently, in itself, requires but little treatment The result of an impartial consideration of this topic leads inevitably to the conclusion that the influence of sex upon disease has been exaggerated, and that the great fundamental principles of physiology and medicine are the true supports of sound therapeutics in childhood and in old age, in men and in women

30 West Thirty Sixth Street

FALSE LABOR PAINS

Presented to the Section on Obstetrics and Diseases of Women at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo, June 7-10, 1898

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As I believe there are important points in the diagnosis and treatment of false labor pains which are not mentioned by the majority of obstetric text-books, I desire to present this minor subject and obtain your opinions As we are called to our dispensary cases as soon as the pains occur every ten minutes, we have seen a proportionately large number of patients suffering from false labor pains At times calls to such cases have been nearly as frequent as to real labor

Synonyms —Premonitory pains, dolores presagientes, and, if you will allow me, threatening premature labor

Definition —False labor pains are pains which simulate true labor pains but are not at the beginning the result of compression or tearing of the nerves of the birth canal

Time —Generally in the last weeks of pregnancy, but they may occur any time during pregnancy or even in the non-pregnant to a less extent The pains frequently accompany sinking of the uterus or occur at the time for a menstrual period

Causes —Originally the cause is generally intestinal colic or some reflex local or peripheral disturbance Toothache is a peripheral disturbance that may result even in labor Rheumatism of the uterus, irregular contractions of the abdominal or uterine muscles, are given as causes In fact, any of the causes of abortion may produce false labor pains

Synonyms and diagnosis —It is said that none of the premonitory symptoms of labor are present Sinking of the uterus and other premonitory symptoms are often present A great majority of writers state that in a case of false labor pains the pains are irregular do not occur at the same time as the painful uterine contractions of pregnancy, that the pains are felt all over the abdomen and do not progressively increase as do labor pains, and that they do not dilate the cervix Now, this may be true at the onset, but sooner or later the pains may be only in the back or groins, occur regularly, be as severe as labor pains and often accompanied by painful uterine contractions which may cause from one to three fingers' dilation of the cervix

These uterine contractions are, however, generally only progressive for a time and disappear when the cause is removed It is sometimes impossible to differentiate them from true labor pains without waiting an hour or two to note the progress of the dilation of the cervix or the effects of the therapeutic test To determine if the uterus contracts at the same time as a pain, the text-books say to place the hands very gently to the fundus, but it may be necessary to feel the lower uterine segment per vagina to exclude the possible contraction of the abdominal muscles The symptoms of threatening premature labor are identical with those of false pains when painful uterine contractions are present A painless uterine contraction may occur at the same time as the colicky pain in the intestines The irritation caused by the colic may bring on uterine contraction, at first painless, later painful Effacement and one to two fingers' dilation of the cervix may occur in multiparæ, with lacerated cervices from relaxation, independent at least of painful uterine contractions

Prognosis —The pains generally disappear rapidly if the cause be removed Rarely premature labor follows Some cases of tedious labor supposed to be at term and lasting two or three days are probably due originally to the irritation of false labor pains which have produced enough irritation to excite a little prematurely true labor pains, and finally expulsion of the uterine contents When the false pains have excited threatening premature labor pains and some dilation of the cervix, labor at term is frequently easier as a consequence

Treatment —As soon as false labor pains are suspected a four quart enema should be given at once, and then a fourth of a grain of morphin hypodermically The morphin may be repeated by the mouth in an hour or two if the pain lessens but does not disappear Nothing stops the pain so rapidly as an enema Do not think of cathartics They take too much time and may increase the irritation In some cases it is impossible to stop the colic until after hot drinks, as ginger and peppermint, or inhalations of chloroform, and even hot fomentations and flaxseed meal poultices have been used

ILLUSTRATIVE CASES

Case 1 —Sinking of uterus and dilation of cervix to three fingers Physician remained all night because previous labors had only two or three hours' duration Just three weeks later patient confined, labor lasting only about two hours

Case 2 —Very severe bearing down pains, regular in frequency and severity, no dilation of cervix About one week later patient confined, pain not nearly so severe and bearing-down efforts less

Case 3 —Patient eight months pregnant, severe toothache last two weeks, last twelve hours labor pains, cervix dilated two fingers Morphin and chloroform given and tooth extracted The cervix closed Confinement one month later

Case 4 —Cervix dilated three fingers, previous slight pains absent One week later patient delivered after a few pains

Case 5 —Severe colic, no dilation or painful uterine contractions, enema, morphin, hot fomentations, flaxseed meal poultice and finally chloroform for over two hours before colic under control

Case 6 —Colic, enema and morphin not effective A teaspoonful each of tincture of peppermint and ginger in half a cup of sweetened hot water relieved

Case 7 —Patient examined at about the eighth month to see if placenta previa was present (Placenta previa complicated her last labor) Bag of waters found projecting through the effaced cervix dilated to two fingers

COLPOPERINEORRHAPHY AND THE STRUCTURES INVOLVED

DEDICATED TO DR THOMAS ADDIS EMMET AND MR LAWSON TAIT IN RECOGNITION OF THEIR LABORS IN THE SURGERY OF THE PERINEUM

BY BYRON ROBINSON, B S, M D
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Continued from page 594

The vaginal portion is endowed with considerable strength and it becomes blended with and is lost on the vaginal wall The rectal portion of the levator ani fascia superior passes to the rectal wall, becoming continuous with the fibers and blending with it There is a strong fillet passing between the rectal and vaginal canal The part of this fascia which passes to the rectal wall, has been termed the ligament of the rectum This fascia forms a strong support to the muscular wall of the rectum

It is not an argument very rich in facts to say that the perineal body is to fill in the space in that region It serves as an attachment for one end of the levator ani muscle A subject which I have not found mentioned in the books is that in many parts the fascia of the pelvis consists of many distinctly defined layers, which can be cleaved from each other For example, the fascia over the coccygeal muscle may be cleaved off in several layers, and the same may be said,—but not to such a degree—of the levator ani superior Several thin, transparent planes of fascia may be cleaved off of the obturator fascia superior Even the levator ani fascia inferior, which is very thin and compact, may be cleaved into two or more planes The obturator fascia inferior is a very powerful fibrous plane of fascia and may be cleaved on each side into thin planes but the central plane is a thick, powerful, individual, somewhat coarse, fibrous membrane The powerful obturator fascia inferior is cleaved, split, for the transmission of the pubic vessels and nerve The canal formed by the separation is known as Alcock's canal The several membranous planes of some of the fascia in the pelvis endow it with much more utility One plane may tear without the other Several cleavage planes are characteristic of fascia in other localties and are more capable of resisting trauma than a single plane

The coccygeal muscle arises from the spine of the ischium and lesser sacrosciatic ligament, becoming inserted into the side of the coccyx and two lower sacral vertebræ It is a flat musculo-tendinous triangular plane, aiding to close the posterior pelvic outlet Its anterior border is in contact with the posterior border of the levator ani muscle, of which it is practically a continuation backward and covered by the same fascia, viz, the levator ani fascia superior The posterior border bounds the anterior margin of the great sacrosciatic foramen The lesser sacrosciatic ligament which is formed by a degeneration of the superficial muscular fibers of the coccygeus, takes the place of the continuation of the levator ani fascia inferior The coccygeus muscle is fading out of existence, belonging originally to a large tailed animal The origin and insertion of the coccygeus muscle and lesser sacrosciatic ligament are identical They are so strong that practically they never yield so as to be involved in colpoperineorrhaphy However, the coccygeus muscle is described in order to show that its fascia should be named the coccygeal fascia, which can not admit of confusion The inferior surface of the coccygeus muscle is doubly strengthened, not only by the lesser sacrosciatic ligament, but by the superior surface of the great sciatic ligament which represents the proximal tendon of the long head of the bicep femoris The tendon of the long head of the biceps formed an attachment at the tuberosity of the ischium The coccygeus fascia covers the coccygeus muscle and has an area of about 3½ square inches on each side of the median line of the pelvis The pyriformis muscle arises from the lateral portions of the second, third and fourth pieces of the sacrum, from the inferior border of the great sacrosciatic notch and from the great sacrosciatic ligament It passes out of the pelvis through the great sacrosciatic foramen, becoming inserted into the upper border of the great trochanter It is the most posterior muscle which aids in closing the pelvic outlet It serves as a bed on which the sacral nerves may rest It is covered by the pyriformis fascia, which is a continuation of the obturator fascia above and the coccygeus fascia anteriorly After leaving the obturator and coccygeus fascia it rapidly thins out into a transparent thin membrane It is perforated by the internal iliac vessels which leave the pelvis by the great sciatic foramen The pyriformis fascia is attached to the surface of the sacrum internal to the origin of the pyriformis muscle from the posterior border of the coccygeus muscle to the ileo pectineal line which passes along the border of the wing of the sacrum to the sacro iliac joint and finally it is attached to the superior margin of the great sacrosciatic foramen from the ischial spine to the sacro-iliac point The pyriformis fascia covers an area of about five square inches on each side of the pelvis The sacrum is lined by a thin fibrous membrane which we will name the sacral fascia, hence, the internal pelvis is lined by the obturator fascia superior, the levator ani fascia superior, the coccygeal fascia, the pyriformis fascia, and the sacral fascia This nomenclature we recommend as simple, and as facilitating the easy acquisition of the internal fascia of the pelvis

The use of the levator ani fascia superior is *a*, to sustain the pelvic viscera, and is analagous to the fascia tranversalis abdominalis, *b*, to form a pouch on each side for the pelvic viscera, which assists in closing the pelvic outlet above the muscular floor *c*, to fix the pelvic viscera, *d*, with its superior pad of fat and snow-white connective tissue, to support the pelvic peritoneum, *e*, to resist the pressure of the abdominal muscles and the diaphragm, and *f*, to serve the useful purpose of separating the perineal tissue from the peritoneum

This latter anatomic condition limits inflammatory and infective processes from either perineal or peritoneal spaces Further the levator ani fascia superior forms the pelvic floor, and by its strength prevents pelvic hernia The blood vessels are placed superior and the nerves inferior The levator ani fascia superior and inferior limits nearly all fistula in and to one half inch above the anus A disadvantage of the levator ani fascia superior is that it is perforated by nerves and vessels which carry sheaths of connective tissue these sheaths allow infective pro esses to pass from the perineal tissue to the subperitoneal tissue and vice versa Deficiencies occur in the fascia, excavations which are filled with fat The fascia of the pyriform muscles consists of an extension backward of the obturator superior and levator ani fascia superior Both fascial planes blend, the one from the anterior margin of the sacrosciatic foramen and the other from the posterior margin of the cocygeus into a thin membrane which covers the pyriformis muscle and the sacral plexus of nerves The pyriformis fascia is perforated by the gluteal vessels and nerves to gain the gluteal region This plane of fascia is so thin and delicate that one can scarcely dissect it without tearing it The levator ani fascia inferior (anal or ischiorectal fascia) lies in immediate and intimate contact with the inferior surface of the levator ani muscle This fascia begins at the white line and becomes lost on the rectal wall It is very ntimately connected with the muscles The levator ni fascia superior and inferior blend with the rectal allabout one half to three-fourths inch above the anus, d rectal perforations generally occur below the in- tions of the above fascia The fibers of this fascia are included in all deep suturing of extensive colpoperineorrhaphy By including its fibers in the levator ani may be partially restored to the normal relations The sacral and coccygeal fascia lines the anterior surface of the sacrum, it has localized thickenings and thinnings The thickest portions are those located along the lateral margins of the sacrum and especially around the anterior sacral foramina The triangular ligament (deep perineal fascia) closes in the pelvic floor in front It is the result of the union of the obturator fascia extending from both sides toward the center It is a prolongation of the obturator fascia across the pubis, and Winslow called it the ligamentum interossei pubis, Carcassone, the ligamentum perineale, Colles, the ligamentum triangulare urethræ It is the deep blade of the fascia perinei and is an integral part of the obturator fascia It is the middle fascia of the perineum, or Camper's ligament It fills up the deficiency found between the anterior or pubic insertions of the levator ani muscle It is a wonderfully powerful structure in fixing the lower end of the vagina It is stronger in males than in females It is the structure which retains, with powerful grip, the anterior end of the vagina forward and upward The vagina pierces the triangular ligament whose fibers fix themselves in and around the vaginal walls It joins posteriorly with the lower margin of the inferior edge of the superficial perineal fascia If one dissects away all structure from the vagina except the triangular ligament it will become apparent at once what a powerful support it is to the lower e of the vagina The triangular ligament, as its nan implies, is triangular in shape, aponeurotic in structure, extending as a tense septum between the anterio part of the perineum and pelvis It is attached on either side to the rami pubis and ischium Its inferior or posterior inferior margin is ill-defined, blends with the superficial perineal fascia at the ischioperineal fascia, where it gradually loses itself on the lower surface of the levator ani muscle It sustains and fixes the urethral canal It is pierced by the vagina at its base or weakest portion It serves the useful purpose of connecting the bladder and vagina to the pubis, and of retaining adjacent organs in fixed relations By its connection with the ischioperineal ligament (fascia) and levator ani muscle it serves to strengthen the inferior region of the pelvis posteriorly, and aids to fortify the rectum with its muscles By dissection, it is plain to see how the triangular ligament closes the anterior perineal triangle, and the levator ani closes the posterior perineal triangle The triangular ligament extends posteriorly, on each side of the vagina and blends, not only with the lower ledge of the superficial perineal fascia, but very intimately interweaves and blends with the ischioperineal ligaments, making a powerful fixation for the vagina at its lower end The triangular ligament in conjunction with the ischioperineal ligaments lends to the perineal body a "Punctum Mobile"

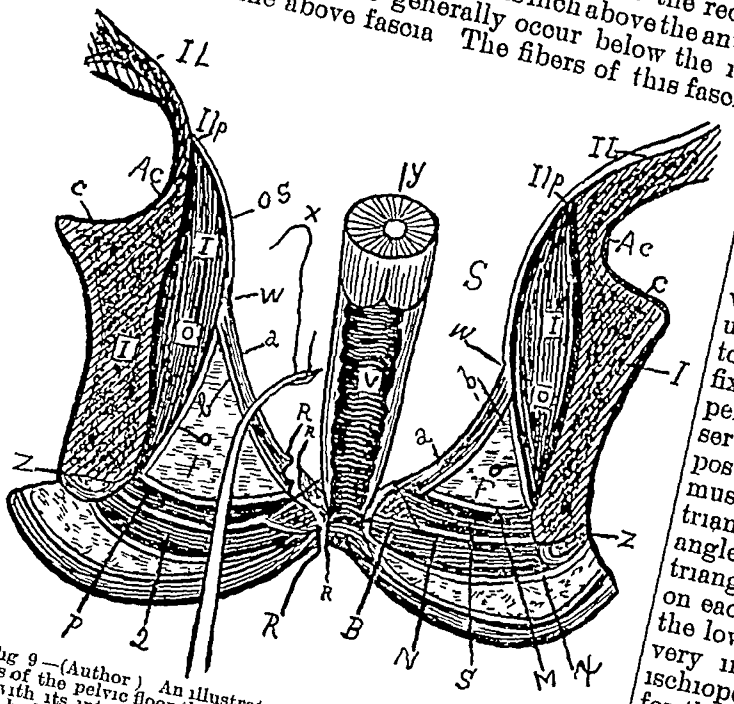

Fig 9—(Author) An illustration to demonstrate that in deep lacerations of the pelvic floor the levator ani fascia superior and inferior is torn with its intervening muscle, the levator ani The rent or tear is shown by R, R, and R, R on the right side The needle armed with the thread (X) will pass through the muscle and its two layers of fascia in order to restore the integrity of the pelvic floor IL, iliac fascia Ilp the beginning of the obturator fascia superior at the ischiopectineal line, OS, the obturator fascia superior W the white line, O the obturator fascia inferior divided by the white line, I O the obturator internus muscle, F, the fat in the ischiorectal fascia, A, the levator ani fascia superior, B, the obturator fascia inferior V, the vagina S intrapelvic space, Y, the cervix, P, deep transverse perineal muscle, and 2 the superficial, B, the sphincter ani externus, M, deep layer of triangular ligament, S, superficial, N, deep layer of superficial perineal fascia

In perineorrhaphy much attention should be given to the factor of including considerable parts of the triangular ligament and the ischioperineal ligaments in the deep suture, which secures a forward curve to the vagina, and also, by forcing medially adjacent tissues, it aids in producing the normal curve of the rectum backward This ligament is a very important structure, serving many purposes of support, and aiding in repair It is continuous with the levator ani fascia inferior, and above it is the levator ani fascia superior The superficial layer of the deep perineal fascia of Colles is a strong fibrous membrane It extends from one ischiopubic ramus to the other This membrane blends posteriorly with the lower margin of the triangular ligament, producing partly ischioperineal ligaments The superficial layer of the deep perineal ligament is less in extent in females than in men, on account of being pierced by the vagina In perineorrhaphy it is of considerable aid in restoring the relation of the parts by allowing the deep sutures to draw the fascia medianward The ischioperineal ligaments extend from the ischial tuberosities to the perineal body They are strong aponeurotic bands of a very resisting character They result from the union of the lower border of the triangular ligament with the deep layer of the superficial fascia The fibers of these ligaments play an important rôle in extensive colpoperineorrhaphy These ligaments form a conspicuous structure in every dissection of the female perineum In the advancing head the ischioperineal ligaments are put on the stretch and gradually forced backward Should they rupture, by extensive flap-splitting and deep suturing the two layers of fascia which blend to make the ligament could be partially restored

Having examined the structure of the pelvis in detail we may now combine the anatomic factors which explain successful colpoperineorrhaphy The first is the restoration of damaged fascia A second important factor is deep suturing A third element in a successful operation is the restoration of function by means of restored muscular relations A fourth is the forcing in the median line of adjacent perineal tissue, and a fifth factor is the flap method of operation whereby there is no denudation or loss of tissue, and the flaps (skin and mucosa) avoid infection and insure primary healing The flap method enables the operator to reach the seat of the lesion, either by splitting tissue or deep suturing with a handled needle with an eye in the end Silk-worm gut which is used in suturing, being non-septic, may remain for weeks in position, like a splint, before removing Among the fasciæ of importance are The levator ani superior and inferior, the triangular ligament and deep layer of the superficial fascia, and the ischio perineal ligament The operation of colpoperineorrhaphy is the result of evolutionary processes of failures and successes In the beginning, it was considered sufficient to unite the superficial or external tissues at the site of the lesion This experiment soon demonstrated its own failure, and later it was deemed essential to restore the deranged and lacerated muscular elements in the pelvic floor The attempt at successful colpoperineorrhaphy by reuniting external tissue at the site of the lesion or restoring deranged or lacerated muscles to normal relations proved a failure to such a degree that it was evident that some other factor played a rôle, this factor was the fascia The restoration of the lacerated tissue at the site of the wound, with the deranged and ruptured muscles, and the restoration of the deranged fascia are the three factors on which successful colpoperineorrhaphy rests To Dr T A Emmet must be given the credit of the view that the pelvic fascia played an important rôle in successful colpoperineorrhaphy Experimental labors on the perineum, in a desultory manner, have been carried on for fifty years But only lately have experimental and anatomic data been judiciously combined so as to render clear what are the useful methods in colpoperineorrhaphy All successful surgical procedures demand an anatomic basis The deranged and lacerated parts in colpoperineorrhaphy must be restored in a manner similar to that in operation for hernia The successful surgical procedures in colpoperineorrhaphy have passed through the same evolutionary process as have the various operations for hernia In hernia we must restore the anatomic relations, the obliquity of the inguinal canal, so that its valve-like action makes it impossible for the viscera to again protrude In colpoperineorrhaphy, not only the anatomic parts should be restored, but the various canals and outlets must also be restored, to ensure permanent success Deep suturing, so essential, is only groping after an anatomic base to restore the ground work The same ideas are involved in the views of discerning surgeons, who suggest that if the sutures include sufficient of the rectovaginal septum, or if they are introduced deep enough to make forward traction, or if they include the sulcus on either side of the bulging vaginal wall, the operation will be successful Dr W R Wilson wrote a short but comprehensive article on the subject, suggesting excellent principles, but modestly claiming that the anatomic basis is still imperfectly understood In the subject of colpoperineorrhaphy the origin of the lesion demanding operation should be studied The cause of the lesion, requiring repair, is almost always the result of (the first) labor, more rarely other forces produce sacropubic hernia The lesions of the perineum may come from the forward movement of the head lacerating the levator ani fascia superior and inferior, with damage to the ischioperineal (ligament) fascia and tearing of the triangular ligament, with consequent inevitable lesion of the deep perineal fascia This will destroy the tone of the posterior vaginal wall, because the fascia has been separated from the vaginal wall near its outlet If the distinct ischioperineal (ligament) fascia be torn, which is quite frequent in labor, the vulvar end of the vagina falls backward and begins its condition of rectocele, its fascial (and doubtless muscular) supports have been torn away With a torn levator ani fascia superior the pelvic viscera will inevitably descend, for it is unphysiologic for a muscle to act as a continuous, tensionized support for viscera But it must be remembered that the fascial layers of the pelvis are not only of value as visceral supports by separate and distinct connection in themselves, but they are of significant importance as serving a means of visceral support and for a point of attachment for muscles lying between their blades The levator ani, which is the most important muscular apparatus on the pelvic floor, serves by its fascial attachments as a visceral support to the rectal and vaginal walls as well as to the pelvic floor, for the uterus is supported by the intact pelvic floor

The pelvic floor may be considered as composed of two widely overlapping valves (Hart) Whatever disturbs the relations of these valves tends toward sacro pubic hernia The anterior pelvic valve is composed of the bladder, urethra, anterior vaginal wall and retro pubic fat The posterior pelvic valve is composed of the posterior vaginal wall, perineum and rectal wall The pubic segment is attached to the symphysis pubis and composed of loose connective tissue The retropubic fat is loose and spongy, the peritoneum may be easily stripped away from the bladder, and the bladder from the vagina In labor, this segment becomes elevated and is the one which easily becomes deranged, or acquires pathologic conditions and especially is liable to prolapse or sacropubic hernia The levator ani fascia superior becomes torn away from the walls of the bladder and vagina, allowing the intra abdominal pressure to force the bladder and vagina downward

When the uterus prolapses (sacro pubic hernia) the anterior vaginal wall appears at the vulva first The strong levator ani fascia has been torn from its walls and when the same fascia has been extensively torn from the bladder it prolapses also In vesical prolapse the peritoneum with its many cleavable planes of subperitoneal (fascia) tissue becomes torn from the bladder The sacral valve of the pelvic floor, consisting of the posterior vaginal wall, the perineum and rectum, is attached by strong fascial connections interwoven by muscles to the coccyx and sacrum In labor, this segment is forced backward and straightened out If it becomes defective by laceration at the perineal body the vagina loses its normal curve and sacro-pubic hernia is initiated, i e, retroversion begins, which is the inevitable factor in sacropubic hernia The uterus itself has nothing to do with prolapses Intra-abdominal pressure and defective sacral and pubic segments account for prolapse, the sacral segment is fixed, the pubic segment is movable

The functions required of the pelvic floor are to resist intra abdominal pressure and to allow rectal and vesical functions The structural anatomy of the pelvic floor must not only be studied in general as to it segments, valves, muscles and fascia but each individual organ should be studied as regards its supports The uterus has its individual supports, which, though not separate from the fascia and muscles, should be well considered, for colpoperineorrhaphy may be required for (prolapse) sacro-pubic hernia without visible lacerations The first elemental individual supports of the uterus are the uterorectal (sacral) ligaments They consist of two folds of peritoneum embracing muscular and connective tissue extending from the posterior surface of the cervix to the rectum (perhaps some fibers do extend to the sacral fascia) These ligaments are an extension of the muscular connective tissue fibers of the upper end of the vagina backward As Dr Frank Foster notes, the vagina and uterorectal ligaments form a balance beam on which the uterus rests Yet it should be borne in mind that organs do not rest on bases, but are swung on supports or mesenteries The brain, liver, heart and uterus are all suspended by supports and do not rest on other organs or bases The uterorectal ligaments are powerful, peritoneal, muscular and connective bands which vigorously suspend the uterus by the neck Careful dissections and vaginal hysterectomy will demonstrate that the uterus could not descend without the uterorectal ligaments became elongated

These ligaments are a part of the musculo-fascial support of the pelvic viscera The vaginal tube supports the uterus by being well embraced by the levator ani fascia superior and the levator ani muscle, and also by being well padded and surrounded by fascial planes of connective tissue fixed in its walls and adjacent structures Fat pads and acts as a support by stiffening folds

In colpoperineorrhaphy, it is well to remember that we have a fixed pelvic segment and a movable or displaceable segment It will aid in repair The movable pelvic segment comprises the urethra, bladder and vaginal walls This segment is bound together by peritoneum on a very mobile base and by a considerable mass of loose connective tissue

This segment becomes displaced by labor, distended bladder, vagina or rectum If its fascial connections become torn, sacropubic hernia is inevitable The fascial connections are considerable above the vulva, consisting of the levator ani fasciæ superior and inferior and to some extent of the levator ani muscle Sacropubic hernia, arising from lacerated fascia of the movable pelvic segment is recognized by the vagina and bladder bulging downward at the vulva and making the vulva appear as a waist with the puckering string gone The worst and most damaging cases of laceration are those which begin from the inside and progress outward, i e, the fascia begins to tear high up in the rectovaginal septum, on the sides of the bladder and vagina These are the cases which present distressing symptoms, when standing are worse on account of disturbed circulation and are pronounced "prolapse" by the general physician In such cases the anterior vaginal wall appears first at the vulva, then the cervix and finally the posterior vaginal wall The bladder gradually sags downward and difficult urination is added to the already existing train of symptoms In lacerations of the sacral segment of the pelvis the lesions are more visible The perineal body suffers especially It straightens out the fixed sacral segment and retroversion and inevitable subsequent sacropubic hernia results The visible laceration of the perineal body was originally considered the chief requisite for repair and also the type of colpoperineorrhaphy But the study of the pelvic fascia shows why the operation failed or succeeded Frequently it may be observed that the perineal body is visibly torn, but no evil consequences follow, because the fascia remains intact The rectum belongs to the fixed segment It does not prolapse, but its wall stretches, elongates As the advancing head forces forward and tears the levator ani fascia superior and inferior as well as the ischioperineal ligaments, the levator ani muscle also becomes deranged but practically the restoration of the fascia restores the muscles The muscular layers of the pelvic floor are two—superficial and deep connected—and blended at the perineal body both by the muscular and fascial relations The deeper layer is the levator ani muscle which descends from the sides of the pelvis in the form of a boat or bowl to its attachments on the pelvic floor The superficial layer consists of the transverse muscles of the perineum, which extend from the tuberosities to the center of the perineum and also the bulbo-cavernosus, which surrounds the vaginal outlet All the muscles are related to fascia, as the levator ani inclosed in double blades of fascia, i e, the levator ani fascia superior and inferior The deep transverse muscles lie between the triangular ligament and Colles fascia The bulbo-cavernosus and superficial transverse muscle lie between the two superficial perineal fasciæ The ischioperineal fascia is but the thickening of the lower border of the triangular ligament and Colles fascia The significant importance of the fascia of the pelvis becomes at once apparent, not only in maintaining the integrity of the pelvic floor, but in all repair of the same The pelvic fascia is the chief element in maintaining perineal muscular relations The pelvic fascia may be divided into deep and superficial layers, according to the deep and superficial layers of muscles The deep pelvic fascial layers are united to the more superficial pelvic fascial layers in the perineal raphe, holding the pelvic fascia as a unit The superficial fascial layers of the pelvis are attached from the ischial tuberosities to the pubic rami and stretch across the anterior perineal triangle They shut off the pelvic outlet except at the vulvar orifice Fascia may be torn without its associated muscle being torn In perineal laceration the muscles lying between the fascial layers may become separated as to loops or as to the attachments of one or both ends Also the fascia ani muscle may be lacerated in different localities and this allows complete repair

When the muscular layer between the fascial layers separates, the muscular fibers retract irregularly toward the proximal end, leaving gaps which are difficult to effectually repair The rupture and retraction of the levator ani with its fascia makes the deep sulcus found on each side of the bulging rectocele, because the fibers of the levator ani retract laterally toward the pelvic walls It is evident there is a deeper factor in perineal lesions than visible lacerations The deficiency in perineal lesions is not in proportion to the apparent extent of the injury Every physician has noticed multipara with considerable external laceration of the perineum, with apparently little discomfort, and with the pelvic organs but slightly disturbed, while in other cases, with slight apparent lesions, complaints are serious I have seen extensive visible lacerations with almost no complaints and apparent health Again, we may observe cases when the perineum does not appear lacerated, but the prolapsed vagina, the bulging rectocele and vesicocele appear at the vulva in a remarkable degree In fact, as Dr Emmet remarks, it looks like a bag which has lost its puckering string There is a different explanation for each of the above classes In one, the pelvic fascia has suffered in the lesion and in the other, only a few muscle loops and possibly the perineal body When the lesion involves the pelvic fascia its consequent result is that the circulation is deranged seriously, because the vessels are held in definite relations by the fascial planes, hence the discomfort on standing and exercising is from congestion Baker Brown simply united the torn tissue at the vaginal outlet Seldom does this simple measure afford any real relief from perineal laceration, for subjects with such visible slight traces suffer but little In general the operations for the relief of perineal laceration are a failure If the rectovaginal septum (fascia and muscle) be not brought in the grasp of the deep sutures success will not be obtained even though the vulva be closed The secret of Emmet's success lay in the denuding of the vaginal septum, i e utilizing the tissue posterior to the vaginal wall In fact, if the levator ani fascia superior and inferior be not lacerated the subject suffers but little from the lesion, though the perineal body be torn through to the rectum The levator ani fascia superior forming the gutter or sulcus on each side of the vagina is firmly blended with the vaginal canal as the same strong fascia in the male surrounds the prostate In labor, in perineal laceration we should not merely look for lesions in the posterior commissura of the vulva, for that is done by the escaping head and shoulders, and is visible, but we should look for concealed lesions of the strong fascia, the sulcus on each side of the vagina The most serious lesion of labor may occur without visible external injury This lesion is in general a separation of the fascia from the vaginal wall If the fascia be torn from this, the posterior vaginal wall will not be drawn against the anterior and the canal will be filled within it will be like an open collapsed bag The fascia together with the muscles holds the vaginal and rectal canals in a closed condition, excluding air The ballooning out of the vagina with but little injury to the perineal body is indicative of fascial lesions within the pelvic cavity along the vaginal canal The vaginal rectocele is due to the drawing aside of the levator ani fascia superior and but little to the external laceration The beginning of discomfort on assuming exercise is due to deranged pelvic circulation, to dilation and straightening out of veins to non-uniform support of the blood vessels and nerves by the proper connective tissue The advancing head crowds the fascia forward, and if the labor is terminated without forceps, the rents begin chiefly in the rectovaginal septum It is well to decide what and where the laceration is, so that tissues may not be either denuded or split unnecessarily, for it is not unfrequent to see tissues united which were never involved in the lesion Perhaps sufficient has been demonstrated, anatomically and clinically, to show that the lesions of the perineum which disable and discomfort the patient are chiefly lacerations of the fascia and secondarily of the muscles On this view we base our labors If this be the case, we can easily see that Emmet secured success by denuding an elliptical area of the vaginal mucosa on each side in the vaginal sulci The curve of the denuded area corresponds to the posterior curve of the rectovaginal septum, and is situated within the introitus Now, by introducing deep antero-posterior sutures, the levator ani fascia superior and inferior may be reunited, restoring the curve of the posterior vaginal wall and the fascial layers at the vulvar outlet In reuniting the levator ani fascia superior and inferior the levator ani muscle becomes also reunited, but in an imperfect degree The levator ani is closely embraced by its superior and inferior fascial planes, as from its origin, insertion and relation it depends on its closely associated fascia The restoration of the function of the levator ani muscle must be accomplished through restoration of its intimate planes of fascia If success depended on the muscle chiefly, it would be necessary in rectocele to reunite the separated levator ani loops anterior to the rectocele in the median line or raphe, so the symmetrical muscular action would be restored It is true that to secure muscular action of the levator the loop must be so repaired that the fibers shall start to act approximately from the raphe on both sides, but this is accomplished by reuniting the levator ani fascia as near as possible in the median line, which brings the muscular loops with it The levator ani fascia superior and inferior is really a sheath for the levator ani muscle to accomplish its functions The sheath can not be torn without creating damage to the muscle In rectocele, this fascia is so torn and stretched that the anterior wall of the rectum loses its muscular support and bulges forward Whether the sutures be introduced antero posteriorly or transversely, it matters but little, if they include in their grasp the levator ani fascia existing in the lateral sulci of the vagina, and whatever is done to be successful, the rectovaginal septum, composed chiefly of fascia, must be restored to reproduce the normal curve of the posterior wall of the vagina Mr Lawson Taits' flap operation on the perineum accomplishes exactly what Emmet's operation in the lateral vaginal sulci does, with the exception of denudation Both operations, when properly and successfully executed result in the restoration of the continuity of the deep and superficial fascial layers of the pelvic floor, with the establishment of partial or complete muscular function The deep sutures reunite the structures (fascia and muscles) at or near their normal points of attachment Anatomically then the object to be obtained in an operation for colpoperineorrhaphy are

1, the restoration of the levator ani fascia, superior and inferior, 2, the reunion of the fibers of the levator ani muscle so that it will functionate—both fascia and muscle must have relations at the perineal attachment, 3, the restoration of the transverse perinei muscles which draw the vagina lateralward, causing it to remain open 4, the restoration of the ischioperineal ligaments in regard to the perineal body, 5, the posterior curve of the vagina must be reproduced by restoring the rectovaginal septum, 6, a new perineal body should be restored so that the natural backward curve of the rectum and forward curve of the vagina should persist, i e, normal relations should be established between the perineal center or body, on the one hand, and fascia and muscle on the other The perineal body—"punctum fixum"—of vulvar surface relations should be restored

The pelvic floor is composed of muscles, fasciæ, areolar and elastic tissue These structures are interwoven into distinct though complicated relations and fill the gap of the pelvic outlet The pelvic floor is composed of two halves, whose structures arise from the lateral walls and join in the medium line There are two muscles, two fasciæ and two ligaments of each kind If one will carefully study in dissection the levator ani and the bulbo-cavernosus muscle he will be impressed with their functional comparison Both are sphincter muscles Both have connection with skin as most true sphincter muscles possess The three points of insertion of the bulbo cavernosus may be considered as one muscle They contract together and have a similar function The common feature of the two muscles is their attachment to the terminal fibers of the rectum and vagina The sphincter ani is closely united to the muscles of the pelvic floor by tendons and fascial attachments The object of the muscles of the pelvic floor is to control the lower ends of the vagina and rectum Fascial structures are common to muscles which have to afford sustaining power, as those of the abdomen, back and thigh

(To be continued)

A STORY OF CHICKAMAUGA

BY R STANSBURY SUTTON

Major and Chief Surgeon U S V, Commanding Second Division, First Army Corps Hospital

My apology for intruding upon the columns of the JOURNAL is multiple I am a veteran of the Civil War, and I did duty upon the battle field of Chickamauga, upon which I have been again on duty since the 7th day of July My knowledge of hospitals is of long duration, and extends to the hospitals of Europe as well as those of our own country Moreover, while the hospital under my command needs no defense for its efficiency under my own administration, I feel that my colleagues in the army and in other hospitals have been most unrighteously abused—from the Surgeon-General at Washington to the humblest lieutenant serving as an assistant-surgeon in the regiments In this defense of a noble profession, I do not excuse dereliction of duty or stupidity in any medical officer Occasionally a medical officer is found who is incompetent, not always because of want of medical knowledge, but by reason of his disposition, which disqualifies him for his position Such men are in the army, but they are few

Let me photograph for you the pictures in my mind as they were registered On July 6th I reached Chattanooga at 8 30 P M My hotel for the night was the Read House At 5 A M of the 7th I arose, put my head out of the window and counted twelve soldiers lying drunk in the street At the Central Depot, a few hours later, waiting for a train to Lytle, where I must report for duty, I observed soldiers drunk and in the company of prostitutes A police officer at the depot, of whom I made many inquiries suggested by my knowledge of Chattanooga at the time of the Civil War, told me that the town was full of drunken soldiers and prostitutes, the latter numbering many hundreds, of all shades of color and damnation

A railroad ride of an hour, between Missionary Ridge and Lookout Mountain, southward, and the station of "Lytle" or "Battlefield" was reached Wooden sheds surrounded a space opposite the depot, forming an aggregation of restaurants, fruit and nut vendors, variety shows and houses of prostitution An hour later I reported for duty and was assigned to the staff of Brigadier-General Rosser, of Confederate army fame

In the afternoon I returned to Chattanooga and slept that night in the Southern Hotel, at 8 30 next morning I counted, from the window of my room, seventeen soldiers lying drunk in the street Hundreds of others lay about the town in the same condition Who was responsible for this? I ask the honest reader if the sickness in the army springing from drunkenness and prostitution was due to the carelessness of the medical staff of the army? This loose military and civil government had been prevailing for weeks, and the army was suffering from dissipation and prostitution Not less than 5 per cent of about 50,000 men were incapacitated for their full duties by syphilis or gonorrhea or both They flocked in at the sick calls, the quarters were besprinkled with them, and they furnished fully 80 per cent of the surgical patients of the field hospitals How did they conduct themselves there? Their appetites were not inspired, they craved full diet, and, because they were in the hospital, wanted all the delicacies provided for sick men who could eat but little and drink soup and milk They resented their grievances by writing letters to newspapers abusing the hospitals and the doctors An anxious mother from the far North becoming alarmed, came down to Chickamauga She had read these letters Her own son had written her his views and told her of the horrors of the army hospital Upon her arrival she poured out her seven vials upon the hospital and the staff, and then demanded that she be conducted to her "darling boy" The surgeon addressed, by this time a little warm under the collar, said "Your son is out in the woods under the trees, he is doing very well, but he has had a very bad attack of gonorrhea" "What's that," she snapped out "Clap, madam, if you please" Many examples of the outrageous behavior of this class of patients might be given But the subject will not bear investigation in the daily press, notwithstanding its libelous and criminal attacks upon the hospitals and their medical staffs Can you accuse the doctors for not preventing this? You can not do it The civil authorities of Chattanooga, to their eternal disgrace, are largely responsible for this matter They bowed down before the brazen image of cupidity and resolved to do nothing that would stay the draft upon a soldier's pocket in their morally rotten corporation

On July 8 I took the position of Brigade Surgeon on General Rosser's staff I remained on this staff as Brigade Surgeon until August 1 General Rosser is a man who has been educated in the art of war from West Point through all the wars of the last and present generation He is kind and resolute, companionable and pure in his daily conduct, indefatigable in the pursuit of his duties despite poor health Not a drop of spirituous liquors of any kind were ever seen at his headquarters, and as we stood about our mess table, with its plain and simple food, frequently in the rain without cover, General Rosser, with all heads uncovered, never failed to invoke the blessing of God upon the table and its participants But General Rosser, like all old generals of the army, was physically impaired Their livers are bad, their digestive organs generally are permanently deranged, and the dynamo in every one of them has begun to fail General Rosser broke down and returned to his home in Virginia, and General Poland, Division Commander, died Other old generals, whom I saw, had seen their best days, and altogether would have formed a magnificent advisory board, but their places in the field should have been filled by younger men Surely the medical profession of the army were not responsible for this

Within a week after I joined General Rosser's staff, I was struck with the difference in the morning sick reports of the different regiments forming the brigade It stood in the relation of 1, 2, 3 Why was the First Pennsylvania regiment first, the Fourteenth Minnesota second and the Second Ohio third, or 10, 20, 30 sick? The camp was the finest I had ever seen, the food was good and abundant The weather was then fine later it became atrocious The Pennsylvania regiment was an old National Guard regiment, their officers and men were city-bred, and before entering the service they had culled out of the regiment every man and officer of doubtful health They slept in the company streets, when they were dry, and kept their camp like a pin The Fourteenth Minnesota physically were apparently in advance of the Pennsylvania regiment, but they were largely country-bred, slept in their tents, three and four to the tent The tents were not ventilated by window slots at either end of the ridge pole, and they usually dropped the flies at the entrance The Second Ohio stood below both in health record A hollow in the land stretched through the camp The First Pennsylvania and Fourteenth Minnesota were at its head, the Second Ohio at the foot Later they got the wash from the rains, and in spite of magnificent efforts, like the other two regiments, concluded to move This brigade, officers and men, numbered about 3600, with but one medical officer to a regiment The colonels, Good, Van Duzee and Kertz, were able men, ever vigilant, kind and devoted to their duties, and I consider it a great privilege and honor to add them to the list of my many army friends

A regiment of troops in the field are too much for a single medical officer Each regiment was originally provided with three, but two out of each regiment were detailed to other duties At the field hospital these detailed surgeons were busy, hard-working men But many of them were detailed to the ambulance corps, where they did nothing but play poker, crack jokes and watch the mules switch off flies, or sometimes do other amusing things such as mules will do I sent a remonstrance through military channels to corps headquarters, setting forth my complaint and asked that the medical officers of the brigade at the ambulance station be sent back to their regiments Lieutenant Colonel Huidekoper, the corps surgeon refused to return my medical officers The division surgeon interfered and got one of them back—Lieutenant Dorsey of the Fourteenth Minnesota

I will digress here to speak of the physical character of the soldiers of the entire Division—13,000 men Serving as a member of the Discharge Board, I was almost daily examining soldiers for discharge from the army Among these men I found no end of hernias, many of them existing at time of enlistment One man had inguinal hernia and club-foot Many had severe astigmatism Some were deaf, scores of them had constitutional syphilis, and many had tuberculosis A great many had organic disease of the heart, and a host had bad feet or bad teeth How could a lot of physically bad men fail to make a large sick list? Were the doctors responsible for this? The medical men who passed these men into the service certainly were, but they got only forty cents per capita for examining these men as recruits They had an excuse for poor work It was the same as that attributed to Mark Twain when a pilot on the Mississippi River, when he was upbraided by the captain, to whom he replied that he thought he was "pilotin" very well for $12 a month

On August 1 I was detached by higher authority and put in command of the Second Division, First Army Corps Field Hospital of 263 beds At the hospital I found 162 patients, six medical officers, a lieutenant, a commissary of subsistence, and 39 out of 96 men who should have composed the hospital corps Out of these 39, I was to find kitchen men, laborers, guards, clerks and nurses Of the number on hand some were physically ill suited or actually ill Six noble doctors were on duty—Majors Charlton, Bagerly and Myers, Captain Dutton, Lieutenants Little and Nesbit—taking all the three watches of eight hours each, and 162 patients I was cut down to depend upon twelve or fourteen nurses for day and night duty These were soldiers with only accidental experience, and but little of that, in civil life Seventeen sick soldiers lay upon the ground There was poor preparation of food, a limited supply of proper food for the very sick Major Charlton, whom I relieved, was ill The fault in this instance was twofold The division surgeon and the purveyors of lumber, cots, etc, were to blame I soon, but after much perplexity, got over the difficulties and the hospital flourished Typhoid fever, next to venereal disease, has been the scourge of the army at Camp George H Thomas What was its origin? Why its prevalence?

Let us take a side view of the subject The typhoid bacillus is a specific germ If introduced into the intestines of man it produces a train of symptoms known as typhoid fever Now, was it in the water or was it in the food? Suppose for a moment that it was not in either the water-supply or army rations How did it reach the soldiers? It is a fact that typhoid fever was prevailing in the neighborhood of Chickamauga Park before the army camped there It is also stated that it developed in the first regiments who camped in the park The people in the neighborhood sold milk and farm products to the soldiers and if they had typhoid fever as it is known they had they likely conveyed the typhoid germs in their milk cans and probably in their fruit They watered their milk probably with infected well water, and handled their sick and their fruit. Typhoid fever was not epidemic at Camp Thomas, and its spread was not rapid until within two weeks. It was spread from detached foci of infection and not from one focus. I am convinced, after no little investigation, that the water-supply from natural springs and the pipe-line at Chickamauga was good and did not contain the typhoid germ. It was not in the army rations. I believe that it was first introduced by the hucksters, that troops arriving brought soldiers infected at home or in other camps, and that it spread from one to another in other ways than through the pipe-line or commissary department. But were the doctors responsible for its introduction? Not at all. Were they responsible for its expansion? They fought it as well, probably, as they could in army life and under the difficulties attending camp practice. In the hospital which I had the honor to command, out of more than 900 patients we had 14 deaths from all causes, probably 8 from typhoid fever. The mortality in the Second Division, 1st Army Corps, was certainly not excessive.

The Red Cross Society, the National Relief Association and the United States Government provided more than enough. The combination was lavish. Some things I would have liked to have had more of. Wine, brandy and whisky were shortages, but of everything else to eat and to wear in a sick-bed, I had an abundance. On the 26th of August, I turned over a surplus of nearly half a ton of materials to the Red Cross Society. My work was done at Camp Thomas, and the day following we moved to Knoxville. As I left Camp Thomas, I received a check from the Red Cross Society at Pittsburg, Pa., for $500.

The hospitals and camps have been full of blooming liars, who have filled the newspapers with the most alarming stories of cruelty and neglect. And for the sake of justice they must be met and denied. Cots and lumber were hard to get about August 10, but we soon broke the blockade and got all we needed.

At Camp Thomas or Chickamauga Park the Sternberg Hospital is now open. It is designed with the expectancy of reaching 1000 beds. It is a field hospital. The quarters are the army hospital tents and wooden barracks. The beds are iron, mattresses hair, mosquito canopies over all, and trained female nurses are in attendance. The world has never seen such a field hospital. Hundreds of soldiers will there find more luxury than they ever knew at home, yet the day when the public press will put the Sternberg Hospital in the crucible will likely arrive.

Let the noble fathers and mothers of this Nation know that the medical profession have been as devoted to their sons on the historic field of Chickamauga in this war as were our colleagues to the Nation's sons during the Civil War. It has been God's mercy in prolonging my good health and love of country and giving me the ability to say that I witnessed the devotion to duty of the surgeons in the Civil War and in this war upon the same field of Chickamauga. The soldiers of this war have had their trials, but I can call upon my comrades of the Civil War who are out again now to say whether the following assertion is true or not. The soldiers, sick and well, at Chickamauga Park, have had a picnic as compared with the soldiers there in 1863 and 1864.

The park is infected now and will be rapidly abandoned, as it should be. The sink problem has been mentioned by the newspapers. It is a very difficult one to discuss. The problem in ordinary soil, with plenty of help and good tools, is easy enough. But in Chickamauga Park conditions of soil prevail which make it very difficult to construct a sink with ordinary labor and tools. The soil is tough clay deposited in a bed of rocks of all shapes and sizes. The clay stratum is deep. It is possessed of poor absorbing qualities, and if the rain fills the sink with water it holds it like a barrel. To get a sink a few feet deep is of little consequence. It is necessary that the depth of the sink be 12 feet, and for working space, it is therefore necessary that they be 5 feet in width and 12 feet long. Such a sink requires many reliefs of labor. After completion it must be surface-ditched, when to this you add the ditching of nearly three acres of ground for a hospital site, one may gain some idea of soldiering.

To the regimental commanders of the Second Division, First Army Corps, I return many thanks for the large details of men to aid me in putting the grounds of the hospital in good hygienic condition. When I left the hospital site on the morning of the 27th of August, the entire plant having been delivered for shipment at Rossville, the grounds were ready for a picnic, not a shred of anything being left unburned, not a sink being left otherwise than in a perfect state of innocuousness, all being filled, and banked with lime and earth. If your readers have had some of the deceptions removed from their minds and will kindly turn their wrath from the medical officers of the army, I will be well repaid for the time spent upon this communication.

THE RETURNING ARMY

BY N. SENN, LIEUT.-COL. U.S.V.

CHIEF OF THE OPERATING STAFF WITH THE ARMY IN THE FIELD

The war is over and the heroes who freed the Western Continent from Spanish despotism are returning home. The first war of invasion on our part has been a short, decisive one. Only four months have passed since the Chief Executive issued the first call to arms, and more than we expected has been accomplished. The outside world, which has sneered too long at our fighting strength as a nation, has been convinced that it is dangerous to trifle with Americans in matters of war. In less than two months after war was declared we had more than two hundred thousand men in the field, eager and anxious to face the dangers of active warfare. Less than one-half of this army took part in the invasion. The enemy's navy was entirely destroyed, not a single ship that came within range of our guns escaped. The proud Spanish fleet is a total wreck in American waters, a source of pride to our navy and a significant object lesson for all foreign nations. Santiago fell before our victorious army, Porto Rico yielded after a few skirmishes and Spain accepted our terms of peace without much argumentation, after the hopelessness of her cause had been demonstrated by our invincible army and navy. Peace has been restored, and the returning soldiers of the volunteer army will soon return to citizenship and resume their ordinary vocations of peaceful life.

What a contrast between the invading and returning army! This contrast has reference not only to size but also to appearance. Thousands have died from wounds and disease. Yellow fever, dysentery, malaria and typhoid fever have been and continue to be our most formidable enemies. We had no great difficulty in silencing the Spanish guns, but we have been less effective in preventing the origin and spread of these, the greatest terrors of camp life We can calculate with some degree of precision the loss of life sustained in battle, but it is impossible today to estimate the ultimate damage inflicted by disease The naval forces scored the greatest victories with little loss of life, they escaped disease and its consequences, to a large extent, and were subject to little or no privations The invading armies suffered the brunt of privation and discomforts incident to an active campaign The troops in camps who were denied the privilege of taking part in the invasion of Cuba and Porto Rico had their share of deaths, sickness and hardship It is safe to say that not half of the soldiers engaged in this short war are in a fighting or working condition on their return home It is a sad sight, indeed, to witness the disembarkment of a transport arriving from Cuba or Porto Rico Every one of the vessels brings from fifty to one hundred and fifty disabled men requiring medical treatment All of the men left on the outgoing transports in good health and cheerful mood, all who arrive show the effects of the campaign Many have died in our new possessions, many have been consigned to the sea on their way home, others have reached the shore in a dying condition The crowded transports, the inadequate provisions for proper food, have made the voyages to and from the seat of war a source of hardship instead of health and pleasure The emaciated forms, the sunken eye, the hollow cheek, the pale, bronzed faces, the staggering gait, show only too plainly what can be done by disease, a tropic climate and improper food in disabling an army in a few weeks In this respect our experience is a repetition of that of our enemy It is well known that the Spanish army lost 50 per cent of its fighting force from the same cause in two months after landing in Cuba The Spanish surgeon I met inside of the lines of the enemy, four days before the surrender of Santiago, when we delivered to him, under a flag of truce, sixteen wounded Spanish soldiers, informed me that when his part of the army reached Cuba the men were all in good health, and that now many were sick and none well He drew a sad picture of how their ranks were thinned out by yellow fever, malaria and dysentery The outbreak and spread of typhoid fever in our home camps, so early during the campaign, is responsible for more deaths and suffering than any other cause Many of our soldiers carried the infection with them to Cuba and Porto Rico, and were taken ill on the transports or soon after landing It is much more difficult to keep typhoid fever out of the army than yellow fever The yellow fever which our troops in Cuba encountered was of a mild type Comparatively few died and most of the cases recovered after an illness of but a few days Typhoid fever runs its typic course of three weeks or more, little influenced, as far as time is concerned by medication It is a disease which, above all others requires careful nursing The necessary attention to typhoid-fever patients in nursing and treatment is a matter difficult to obtain, even in a well equipped hospital with all needful appliances The management of such cases in field hospitals is necessarily attended by many difficulties which tax to the utmost the experience of the medical staff and nursing corps Considering the limited resources at our command in the treatment of this disease, in our home camps and our new possessions, it is surprising that the mortality has not been greater The Sisters of Charity and the trained female nurses from different cities, have done most satisfactory work in our home camps, crowded with typhoid fever patients Many a soldier on his recovery from the disease will feel grateful for their faithful services

CAMP WIKOFF

Camp Wikoff is now a great hospital It is located on Montauk Point, L I, a narrow strip of land surrounded on both sides by salt water The country is hilly and treeless and the sandy soil is covered with a scanty growth of grass Between the hills are cup-shaped depressions with a marshy soil, which after rains are filled with stagnant water These diminutive marshes threaten danger in case of a prolonged encampment They are undoubtedly, all of them, the natural breeding-places of the plasmodium malariæ They will soon become contaminated with the fecal discharge from hundreds of typhoid fever cases, as many of the sinks drain directly into them I am told that the water-supply from the artesian wells, while not ample, is otherwise satisfactory The small railroad which terminates here from New York, monopolizes the whole business of transportation, as this exclusive right was made conditional in securing the ground for camp purposes This is greatly to be regretted, as steamer communication could be readily established, which would facilitate the present unusually large passenger and freight business between the camp and New York Politics and personal interests have figured conspicuously in the management of the present war Departments have been severely criticised, when a thorough investigation would often reveal a power behind the throne If we had steamer traffic between here and New York we would not have to wait for days for the so much needed supplies The little railroad has had sufficient influence in cutting off competition and in increasing correspondingly the value of its stock, and we here are suffering the consequences of this Judas Iscariot bargain The whole little peninsula is a tented field Regiment after regiment is arriving, day after day seriously testing the quartermaster's department All the troops that came from Cuba must land here to comply with the quarantine regulations A detention hospital has been established near the landing, to which all suspects are consigned for the required length of time Near the hospital a large disinfecting plant has been erected So far no cases of yellow fever have been imported The general hospital contains at the present time (August 26) nearly one thousand patients and all the sick in the camp will swell the number to 1500 The landing of so many sick in such a short time has brought about an overcrowding which, with the present facilities and resources could not have been prevented Colonel Forwood, Assistant Surgeon General, selected the camp site, and was the first man on the ground His immense military experience gained during the War of the Rebellion, fitted him in an admirable way for the difficult task imposed upon him Colonel Forwood is an authority in military surgery and endowed with excellent administrative talents His work here will be the crowning effort of his life He has worked night and day since he has assumed his duties here He is a friend of the soldier and will not leave a stone unturned to be of service to him He has exclusive charge of the hospital construction and his work was much admired by two staff surgeons of the German army, Drs Steinbach and Wildemann, and by Lieutenant-Commander Tomatsuri of the Japanese navy, who came from New York to the camp with me As they expressed themselves, the field hospitals here were the best they had ever seen Colonel Forwood is ably assisted in his arduous duties by Majors Heitzmann, Brown, Nancrede and Wing and a large staff of acting assistant-surgeons The writer, on his arrival, was placed in charge of the surgical work An operating tent was erected and placed in working order with the assistance of two Sisters of Charity and Acting Assistant-Surgeon Greenleaf The tent is floored and divided into four sections The front part is the operating-room, with two side tables two feet in width the whole length of the room The tables are covered with rubber cloth An army operating-table and a few stands constitute the balance of the furnishing of the room The next section is open on the sides to allow a free current of air and serves as an office The next compartment is the preparation-room, fitted out with formaldehyde and steam sterilizers and sufficient shelf accommodations The last section is used as a storeroom for dressings, splints, antiseptics and drugs necessary for the treatment of surgical cases

Gen Joseph Wheeler is in command of the camp, and although debilitated by the campaign and disease, he attends to his duties with a regularity and devotion which have characterized his whole military career The sick are being cared for at the present time by fifty Sisters of Charity and sixty trained female nurses One of the things that was greatly admired by the foreign military surgeons was the efficient work of the hospital corps They were charmed with the way in which the patients were handled and the gentlemanly conduct of the litter-bearers Less praise was bestowed on the military bearing of the men in camp, from the highest officers to the ordinary private The military spirit seems to have been fully subdued in the enemy's country The sentries move about sluggishly and seldom deem it worth while to come to a "present arms," no matter who may come within saluting distance Men walk about in clothes showing only too distinctly the absence of whisk-broom or brush since they left Cuba Guns, bayonets and scabbards have become rusty and show an entire lack of proper care All drills are suspended and the whole camp presents more the appearance of a picnic ground than a military post Officers and men are evidently impressed with the idea that their work is done, and while away their time in a way requiring the least amount of energy and exertion possible In this respect our troops form a strong contrast with the German army when it entered Paris, after one of the most bloody wars and after a prolonged siege full of hardship and privations On that occasion every soldier was in a condition to go on parade and to pass with credit the inspection of the most exacting officer Such looseness of discipline as seen here at this time is not calculated to inspire the outgoing army with the proper military spirit that should be maintained and cultivated under the most adverse circumstances Strict military bearing is also sadly lacking among the medical officers—a source of disappointment and surprise to the corps of acting assistant surgeons, who entered the service with the full expectation that the reverse would be the case

Camp Wikoff, Montauk, N Y, Aug 27, 1898

THE NATIONAL CRY

BY N SENN, LIEUT COL U S V

CHIEF OF THE OPERATING STAFF WITH THE ARMY IN THE FIELD

Unrest, criticism and grumbling are the accompaniments and heritage of every war These symptoms of war fever have been unusually well developed during the war just ended, and they will be discussed for a long time after the treaty of peace has been signed After an uninterrupted reign of peace for more than thirty years, the war cloud that came upon us so suddenly and unexpectedly provoked a commotion among the people unparalleled in degree and extent since the War of the Rebellion All eyes were turned in the direction of the seat of war, and the contents of our enterprising and prolific newspapers were devoured with an eagerness unknown in any other country It is strange that with all this great national unrest the current of commerce and business pursued its natural course While our troops were engaged in war in foreign lands, the tilling of the soil the hum of industry and the ordinary avocations of life continued as though harmony and peace reigned universal The American never forgets that patriotism is not limited to the battlefield The conscientious performance of duties at home, the fireside, the farms, the workshops, the manufacturing and business places is one of the things essential in the successful prosecution of a war This fact was recognized by our people, and the result has been that the prosperity of our country has suffered little, if any, during our first war of invasion Criticism is a part of human nature It is seen everywhere It affects the educated as well as the ignorant, it extends from the cradle to the grave, it involves one sex as much as the other, it moves the well as much as the sick, it infects the pulpit as well as the stage, and it comes to the surface in the army from the commanding general down to the lowest of all privates It is amusing to listen at a camp fire to the remarks made from all sources as to how the campaign should be conducted The average private discusses the most complicated strategic problems with an ease as though he were repeating the multiplication table or the Lord's prayer The generals high in command ease their conscience by criticising their subordinates most unmercifully, if any thing has gone wrong Wise as well as ignorant men, a thousand miles away from the seat of war, have their convictions as to what should be done and are free to express them Criticism increases in severity and extent in proportion as confidence is weakened and undermined As we live in a free country criticism finds a fertile and productive soil everywhere and anywhere The unbridled liberty of the press encourages and fosters it Like swearing and other vices it is engendered by environments Just and wrathful criticism is legitimate, criticism the outpouring of impure selfish motives is baneful Our energetic, enthusiastic press is entitled to a great deal of credit in giving to the public the war news so promptly and completely, often at an enormous expense and severe danger to life The American reporter has no equal in any country for obtaining news regardless of cost and risk The reporters not only culled the news, but often took a hand in supplying the sick and wounded with fruit, tobacco, and delicacies How quickly the reporters sniffed the latest news, I learned in Porto Rico I arrived from Arroya in the harbor of Ponce, August 13 Rumors of peace were rife for a number of days

The *Herald* dispatch boat, then in the harbor, got up steam at about 3 o'clock in the afternoon Soon the little craft put to sea, and I watched its course with intense interest I said to my friends, if the boat after leaving the harbor, turns in the direction of Arroya, it means war, if in an opposite direction toward New York, peace has been declared The proud little steamer turned its nose toward the United States and made a bee line for New York It was not until the next morning that the welcome news reached headquarters This is only one of the many instances in which the reporters came in possession of the latest news before they reached the officials The reporters were also instrumental in exposing many irregularities and defects of the military service from head quarters in Washington to the seat of war I have no doubt that many wrongs were corrected under the pressure of the press

It is not strange that many of our influential newspapers went a little too far in representing the grievances of the soldiers and in criticizing the action of departments and officers A tinge of sensationalism is common more or less to all of our great dailies ' Interviews that never occurred will continue to appear as long as the reputation of a reporter depends largely on his ability to satisfy the cravings of morbid curiosity The statements made to reporters are always susceptible to more or less reconstruction Again, it must be remembered that some men in the army, as elsewhere, are likely to exaggerate the true conditions, believing that by doing so, their services will be the better appreciated As the result of my own observations, I can say without fear of contradiction that the best soldiers do the least grumbling The most heroic and patriotic soldiers have the least to say of what they did and in relating hairbreadth escapes It is the drone that does the complaining, and who rides in ambulances, and overcrowds the hospital, and puzzles and vexes the hard-working doctor To the credit of the armies of invasion I must say that I heard but few complaints when the days were darkest and the food scantiest One day I visited the fever camp near the division hospital of the army before Santiago, where I found two hundred patients literally lying in the mud, with nothing but a wet blanket, most of them under a shelter tent, some of them even without this slight protection against the pouring rains Food was of the plainest kind, yet little or no complaint here The men expected hardships, and when they came they were not disappointed Grumbling became more marked and widespread with the progress of the war, after the men had become worn out by the campaign, and homesickness had gained a firm foothold The severest complaints have originated with camp followers The Medical Department has been criticized repeatedly, and yet it would be found very difficult to find among the returning soldiers any one who would be willing, or who would have reason to complain of the treatment he received at the hands of medical officers In case of war, the machinery of our government is a very complicated one The executive power of the Surgeon-General is indeed an extremely limited one Everything of importance has to pass through the hands and by sanction of the Secretary of War The Secretary of War is a busy man in keeping track of what is going in his department outside of the Surgeon General's office On the other hand the Medical Department depends entirely on the quartermaster s department in forwarding and distributing medical supplies No wonder that many collisions between these departments occurred during the present war Our experience has taught us in a most forcible way that the Medical Department should have charge of everything pertaining to the sick and wounded, in order to accomplish that for which it is intended The Secretary of War is not supposed to have any knowledge of medicine or surgery or other wants of sick and wounded, and yet the Surgeon-General is powerless in the execution of his orders without his co-operation If the forwarding and distribution of the medical and hospital supplies were directly under the control and management of the Medical Department we would have heard less of well-founded complaints of the scarcity of medicines and hospital supplies To make a department strong and efficient it must be independent It was not difficult to foresee when this war broke out that the greatest danger the troops had to expect was disease and not the Spaniards The importance of the Medical Department was never more keenly apparent than at the present time, and yet what was done? The highest official in the Medical Department is a Brigadier-General, and only five medical officers with the rank of Colonel, and seven Lieutenant-Colonels For the army major-generals were in abundance, brigadier-generals by the dozen, and colonels were turned out by the hundreds Many of the brigadier generals in brand new uniforms and glittering staffs never found a command, but their names remained on the pay roll just the same Many of our newly fledged colonels could not handle a musket to save their lives and some of them even attempted the unusual feat of mounting the horse from the right side In the face of all these appalling defects of army service the brunt of criticism continues to fall on the Surgeon General and his hard working officers in the field Much has been said of the mismanagement of Camp Wikoff Considering the limited transportation facilities, and the fact that in less than three weeks more than 3 000 patients have been cared for, it is a source of gratification that so much has been accomplished, largely through the energy of the Chief Surgeon, Colonel Forwood, and Majors Brown and Heitzman A corps of more than one hundred female nurses, including fifty Sisters of Charity, do the necessary nursing with a will and efficiency that astonish the many visitors The hospital tents go up like mushrooms, day after day, and at the present time 2000 patients are well sheltered and well cared for No lack of medical supplies at this time The surgical ward in my charge was completed today and is already crowded with patients The liberal contributions sent here by different relief societies supply the sick and well with an abundance of delicacies of all kinds The diet of the convalescents is luxurious, much better than what is furnished by the officers' mess The Red Cross is doing excellent work here, as elsewhere, in the distribution of clothing medicines and delicacies Mrs A Tscheppe who represents a relief society of New York is a familiar figure among the soldier patients and has been of much service in adding to their comfort and speedy recovery Most of the patients are suffering from [illegible] typhoid fever or dysentery The number of de[illegible] average from ten to fourteen daily, a [illegible] ege considering the number of pat[illegible] camp The patients here enjoy f[illegible] ing and excellent treatment, all of which will be conducive to rapid recovery The conditions here for the successsul treatment of the fever cases are, in my opinion, far better than in any of the large hospitals in cities It is to be hoped that the entire camp will be vacated in from four to five weeks, as after that time the soil will be thoroughly infected, in spite of all precautions, and the indigenous spread of typhoid fever would follow as an unavoidable sequence The surgical work consists in the treatment of large abscesses, occurring in patients whose general health has been undermined by disease, or the hardships of the campaign, and operations for hemorrhoids and rectal fistula Unjust and unnecessary criticism has a demoralizing effect on those directly or indirectly concerned It is prone to intimidate and confuse those who are criticised and embolden those who look for undeserved sympathy In this camp there is no further ground for complaint of any kind It is generally known that the Medical Department was not consulted in locating the camps For reasons known only to those in power, the camps were selected regardless of sanitary conditions Our troops have been exposed to malaria since they left the State camps, and almost every man shows evidences of more or less malarial poisoning As the essential cause of malaria enters the body by inhalation, malaria could not be avoided as long as the camps were located on a soil which breeds the plasmodium Typhoid fever made its appearance in the State camps and followed the army to Chickamauga, Tampa, Alger, Cuba and Porto Rico It is a repetition of what has happened during all campaigns under similar circumstances Let the national cry subside now and let the press and people await the results of a thorough investigation by Congress, which will place the responsibility for any mismanagement where it belongs The Medical Department courts such investigation, fully confident that the blame will be fixed outside of its legitimate jurisdiction

Camp Wikoff, Aug 31, 1898

OUR RELIEF SOCIETIES

BY N SENN, LIEUT COL U S V

CHIEF OF OPERATING STAFF WITH THE ARMY IN THE FIELD

War, pestilence, famine, floods and other great national calamities, are the most reliable tests to bring out the true philanthropic spirit of individuals as well as of nations- The good Samaritan is to be seen everywhere under ordinary conditions on his errands of mercy, following the footsteps of his Master in bringing comfort to the poor, the sick, the maimed and the oppressed, but his energies are taxed to the utmost, and his work is appreciated most keenly, when the masses are in distress The American people are noted for their charitable disposition, and have gained a well-deserved reputation for humanitarian work Our numerous ideal charitable institutions speak for themselves Many national catastrophes have demonstrated the liberality and good-will of our people The War of the Rebellion furnished an interesting object lesson to the outside world of the way in which patriotism is estimated here During the war just ended many different relief societies have rivaled with each other in supplying our soldiers, sick and well, with many comforts of life beyond the limit of the government supplies The government itself set a noble example by sending to the camps and the invading armies all kinds of supplies, unparalleled in quantity and quality in the history of the country I am sure no one regrets more keenly than the government officials that these liberal supplies did not always reach their destination in time The work of the many auxiliaries corrected many of these defects Individuals as well as organized societies have labored incessantly and faithfully in coming to the aid of the government, in furnishing the troops with underclothing and delicacies usually beyond the reach of armies when engaged in active warfare Miss Anabel Clarestes, a little girl in Lagrange, Ill, has been busy ever since the war commenced in preparing and sending to camps and the front home-made jellies, the product of her own hand She had no difficulty in collecting money to purchase the necessary materials, but it was left for her to labor in the humble kitchen to prepare the incomparable delicacies for the soldiers in the field This little American girl is a heroine worthy of the praise and admiration of the returning heroes who have been benefited by her modest, unselfish work Many a patriotic woman, unknown to newspaper notoriety, has done her share in minimizing the sufferings of this war It was not an uncommon thing for officers to receive a box containing the contributions of some female friend of the army who sent all she could spare for the alleviation of the troops in the field In many such instances the name of the benefactress remained unknown to those who benefited by her donation I have opened many such boxes, containing as a rule underclothing, bandages, reading and writing material, towels, handkerchiefs, and a few jars of jelly or canned fruit The soldiers who were made the recipients of these gifts felt that they were remembered at home, an assurance which contributed much in intensifying their patriotism and in sustaining their courage under the most trying circumstances The intense interest manifested by the government and the people in the care and comfort of the returning army remains unequaled in the history of our country Every soldier was met with a reception given to an intimate and long-looked-for friend The sick received the most tender care from all sides, and the well were given food that reminded them that they had reached home The hospitals and many private houses threw the doors wide open to receive those who required medical treatment Transportation home was made easy and comfortable by the active intervention of thousands of friends who were strangers when the troops left for the seat of war In all large cities committees were organized to look after the comforts of the returning troops In short, it may be safely stated that no army ever received a more enthusiastic, kind and cordial reception than the troops that have reached us from the seat of war

RED CROSS SOCIETY

Miss Clara Barton, President of the American Red Cross Society, has performed her onerous duties during the entire war with a devotion and earnestness that merit universal recognition at home and abroad She has been tireless in her efforts to bring comfort to the soldiers at times when her services were most needed The *Texas* and the little steamer *Red Cross*, under her command, made their appearance at Siboney at a time when outside help was most appreciated Ice, medicines, dressings and hospital supplies were freely distributed among the sick and wounded

After the surrender of Santiago the *Texas* was the first vessel to enter its harbor on its errand of mercy in bringing food for the hungry Cubans and delicacies for the sick of the victorious and vanquished armies The Red Cross Society established supply depots in all of the large camps and the good work done everywhere will live in the memories of all who were engaged in the conflict Miss Barton has the confidence of the American people and she has sustained it through the present war by the thoughtful and timely distribution of the innumerable and liberal donations to the society she so well represents An appropriate idea of what this Society has done can be gained from the fact that in Camp Wikoff alone two thousand dollars of supplies are distributed daily Miss Barton has been assisted in her widespread humanitarian work by a large staff of physicians and nurses who came to the relief of the medical officers at times when their services were most needed After peace was declared, Miss Clara Barton immediately sailed for Havana to bring much-needed aid to the starving reconcentrados of the long-besieged city, while her numerous helpers continued their faithful work in the home camps The work of the Red Cross received the moral and substantial support of the charitably disposed citizens throughout the United States and liberal donations from abroad Recent experience has again demonstrated that this society is the most important auxiliary in war as well as other natural disasters in bringing prompt relief to the sufferers

WOMEN'S PATRIOTIC RELIEF ASSOCIATION, NEW YORK

This benevolent Association has extended its work from the camps to the needy families of soldiers who enlisted and went to the front, leaving families behind them, worthy objects of well-deserved charity It was founded in the City of New York at the outbreak of the war, at the residence of Mrs Egbert Gurnsey, with Mrs Howard Carroll as president and well-organized committees and advisory board, consisting of prominent business and professional men The Association has provided food and house rent, as well as medical attendance, monthly, to no less than 2444 families A free eatinghouse was established at 711 Eighth Avenue, where these families received food and clothing Mrs Charles Carroll, a member of the Association was made president of the Naval Reserve Relief, and by contributions and a garden party given at her residence in New Brighton, Borough of Richmond, the sum of $2500 was secured, which was expended for the benefit of the New York Naval Reserves This special function of the Association did much for the comfort and efficiency of this otherwise neglected branch of the military service The hospital work of the Association has been under the management of Mrs Charles Carroll, Mrs Adolph Tscheppe and Mrs Seymore The ladies of the Association, with Mrs William McDonald as chairman, gave an outing to the convalescent soldiers from the different hospitals in Central Park, which proved to be one of the most memorable occasions in the annals of the history of this famous park Mrs Charles Carroll and Mrs Tscheppe erected a tent in Camp Wikoff when the soldiers from Cuba commenced to return, and have been busy in distributing without any red tape an enormous amount of most valuable contributions among the sick and convalescents Their donations of different stimulants and artificial waters have proved most acceptable and timely From this tent ice cream has been furnished daily A special messenger has done excellent service in distributing mail and in looking up soldiers inquired after by anxious relatives So fertile have been the resources of this modest little tent that it has been designated "The Gold Mine" Mrs Tscheppe represents the ladies of the "Liederkranz," and her popularity among the Germans of New York has brought not only the most liberal donations but likewise cash in large amounts Only the other day she received from a single source a check for $500, which she was asked to use at her own discretion in the care of the sick and convalescent in the camp The German press of New York has used its influence in supplying Mrs Tscheppe with ample means on her errands of mercy

ILLINOIS ARMY AND NAVY LEAGUE

This relief association was organized soon after war was declared It is composed of representative men and women throughout the State of Illinois, with headquarters in Chicago The secretary, Dr F H Wines, had an extensive experience in dispensing charity throughout the War of the Rebellion, and was consequently well prepared in assuming the laborious and trying duties of his office While it was the principal intention of the association to look after the interests and comforts of the State Volunteers, many of the contributions reached soldiers outside of the Illinois troops The State of Illinois, and the City of Chicago in particular, have been very active in minimizing the inevitable sufferings incident to active warfare by sending to the camps and the front large quantities of the most desirable articles of diet, delicacies, underclothing and medicines The League made special arrangements for transportation at reduced rates, so that the donations reached their destination promptly and at small expense The League has had from the very beginning a handsome bank account, and cash was sent to different points for the purchasing of the most necessary articles The citizens of Illinois will have the satisfaction of showing that by concerted action of the members of the League the work of charity and benevolence has been accomplished in the most satisfactory manner

MASSACHUSETTS VOLUNTEER AID ASSOCIATION

There has been an impression prevailing among the regular troops, that while the soldiers of the regular army have fought the hardest and have been subjected to the greatest privations, they have not received the recognition to which they are entitled and have been more or less ignored by the different relief associations There is undoubtedly some truth concerning these statements The Massachusetts Volunteer Aid Association has recognized the validity of this complaint, and has directed its surgeons toward correcting the oversight The work of this association in this direction has been particularly notable in Camp Wikoff A number of ladies representing the Association came to the camp and have done all in their power to render the soldiers belonging to the regular army comfortable and happy

A light diet kitchen was established, provided and equipped at the First Division Hospital in charge of Major Wood in conjunction with the Red Cross Society, under the superintendence of Mrs M H Walker The kitchen is an ideal one and is [illegible] by a competent chef Mrs Dininger

ger The bountiful donation for the sick of the Regular Infantry Division was brought to the camp by Mrs Leach, wife of Major Smith S Leach, of the Engineer Corps of the Regular Army, and was contributed by the ladies of New London, Conn , and the Pequot Society It consisted of a well assorted collection of soups, eggs, lemons, oranges, butter, crackers, sugar, barley, cocoa, farina, beef, ham, corn-starch, codfish, breakfast food, chocolate, gelatin, tobacco, pipes, keg of whisky, writing and reading material, towels, pajamas, night-shirts and underclothing The light-diet kitchen is one of the attractions of the camp The relief societies that I have mentioned are only a few of the hundreds organized throughout the United States for the same purpose, notably among them the "Daughters of the Revolution" and the "Colonial Dames," all of which did their good share in alleviating the sufferings of our army in camp and at the front The charity that has been practiced so bountifully and so generally during the present war, must satisfy our victorious army that the patriotism they carried into the field has been cultivated at home in words and action to a degree and extent unparalleled in the history of the world War in a just cause begets patriotism, and nothing can demonstrate this more clearly and forcibly than our experience in the field and at home during the last five months

Camp Wikoff, Sept 8, 1898

SOCIETY PROCEEDINGS

Society of Ophthalmology of Paris.

Meeting of July 7, 1898

[Translated by DR FLAVEL B TIFFANY, Kansas City, Mo]

M BOUCHERON, vice president, in the chair

M A DARIER presented a paper on

SOME THERAPEUTIC INDICATIONS FURNISHED BY THE BACTERIOLOGIC EXAMINATION OF CONJUNCTIVAL SECRETIONS

Several years ago, a short time after the works of Neisser, I made a series of researches in the endeavor to determine under what conditions the gonococcus produces the grave, virulent form of ophthalmo blennorrhea During two years I submitted to microscopic examination the secretion of almost all the conjunctivites who presented themselves at the clinic of my master, Abadie I was able to acquire thus the conviction that there is no true purulent ophthalmia without gonococci but all gonococcic ophthalmias are not equally virulent There are involved special questions of individualities both on the part of the patients as well as upon the part of the microbes themselves Now the microscopic examination gives us only an approximate indication, which, moreover, the clinical observation, for a long time practised, procures us in a degree equal if not superior So for several years I have renounced as a basis for therapeutic indications, the searching for the pathogenic microbes from the secreting affections of the conjunctiva I would not say as much of the pseudo membranous conjunctivitis in which the serotherapie is of a wholly different action, according to whether one has to do with the Loeffler bacillus or with streptococcus Now at this moment I am very greatly interested in the study of the therapeutic efficacy of a new salt of silver, the protargol The results which I have obtained from this agent are so favorable that I could only confirm the conviction by bringing irrefutable anatomic and clinic proofs, so I caused to be undertaken by Mr Valençon, my chief of clinic, a series of microscopic researches for confirming the diagnosis clincally put forth From these studies, which will very soon be given, in an inaugural thesis, I can already draw the following conclusions, which are, moreover, the very same which I had already put forth from simple clinical observation

1 Acute catarrhal conjunctivitis characterized by the presence of the bacilli of Weeks is cured generally in two or three days by the daily cauterizations of protargol

2 Subacute conjunctivitis with diplobacilli (of Morax) is at first rapidly ameliorated, but relapses are so much the more frequent in proportion as the time between the cauterizations is extended Moreover, at the end of a certain time, it comes about that, as with the nitrate of silver, a sort of accustoming to it, and the action of the medicament becomes, so to say, null and void It is necessary to change the treatment Following Mr Morax, I have tried the sulphate of zinc, but I have not been very well satisfied with it On the other hand I have been well pleased in these cases with the use of the acetate of lead, and with ichthyol 1/10 whether in solution or pomade

3 Gonococcic purulent conjunctivitis seems to be the affection called upon to draw forth the most brilliant results from the protargollic medication I sought to give the reason for this in two previous works (See the Clinique Ophthalmologique, 1898, Nos 1 and 6) Up to this time in all the purulent ophthalmias which I have treated for seven months by protargol I have not seen one in which the suppuration has not been dried up at the end of a few days by bi daily cauterizations, and that, too, in the most virulent forms But if one ceases the treatment before fifteen days the suppuration reappears

4 In two cases of acute pseudo membranous conjunctivitis, non diphtheretic, the protargol, contrarily to nitrate of silver, has led in three or four days to a complete disappearance of the false membranes What effect would be obtained in the forms truly diphtheretic? I shall occupy myself ultimately with blepharo conjunctivitis with trachoma and with dacrycystitis

Mr VALUDE—Gonococcus does not always produce the same form of ophthalmia I observed lately in a family of five cases one only presented a grave purulent conjunctivitis, the others were only affected in a slight degree, and all, nevertheless, had gonococci in the secretions It is then very important to find a means of diagnosticating the gravity of the affection, and this is what I hope to find in the researches of Dr Darrier

Mr SULZER—The gonococcus is not the sole agent capable of producing purulent ophthalmia, as the remarkable descriptions of Larrey on the subject of Egyptian ophthalmia (seasonable or climatic gonococcus) prove

Mr PARENT—I am surprised that Mr Darrier employs still in certain grave conjunctivites (and consequently susceptible to ulcerations) the solution of acetate of lead, which exposes to metallic deposits not only upon the ulcerated parts but even in certain cases upon the conjunctiva, where it is deposited under the form of little grainy particles Then, too, when our therapeutic arsenal is so rich in astringent and caustic substances, of what use is it to employ acetate of lead, which presents such inconveniences? When one speaks of purulent conjunctivitis, it is necessary in point of view of the gravity and the efficacy of treatment to make a difference between the adult and the baby In general the latter is less grave and not so liable to corneal complications It is then, for the more rapid cure of blenorrheal ophthalmia of the adult that we must establish the superiority of protargol over other treatment, and especially over nitrate of silver For, as to purulent ophthalmia of the baby, one may cure it (if the child is cared for immediately) by many different medications, and that with sensibly the same results Another important point to know is the following Does it dialyse or diffuse in the conjunctiva more deeply than nitrate of silver, and above all than of silver (naissant)? An excellent therapeutic agent recommended about fifteen years ago by Dr Sedan, the iodid of silver (naissant) is formed in the cul de sac, even by the double decomposition of alkalin, iodin and salt of silver introduced into the cul de sac, by means of two glass bipets In the point of view, especially, of the dialysis or of the thorough penetration of the deep layers, this iodin d'argent (naissant) presents some advantages, and I call the attention of Mr Darrier to it that he may experiment comparatively with protargol

Mr SPEVILLE—I have employed protargol only in catarrhal ophthalmia, and have obtained excellent results from it in such cases Purulent ophthalmia of the new born is not so benign as M Parent would have it, and for that I have seen recently two cases of babes treated with free washings with permanganate, who came back to me with both corneæ quite gravely compromised

Mr MORAX—It is very easy to convince one's self that all conjunctivites with purulent secretions are not due to gonococcus The conjunctivitis produced by the bacillus of Weeks often presents a purulent secretion It may even be accompanied by corneal lesions, as I have demonstrated, and on this subject I recall the case of a patient who had been attacked by an intense, acute contagious conjunctivitis with the bacillus of Weeks, which presented from the very first days of affection, and before the beginning of treatment, quite a grave corneal lesion, since it left after it a central leucoma, and M Darrier had to make ultimately an optical iridectomy The eyes of this patient had objectively the aspect of a purulent conjunctivitis, but I repeat we had not to do with the gonococcus, but with the bacillus of Weeks I believe that I have demonstrated that the classification of conjunctivitis based solely upon the objective aspect of secretion was erroneous We may make clinical diagnosis of the different conjunctival infections, by basing not only upon the objective aspect of the inflammation (as has been the custom), but also upon the commemoratives, the evolution, in other words, upon the whole assembly of the symptoms and not upon one single sign, so variable as the aspect of the anatomical lesion I am surprised that Mr Darrier has not succeeded in curing subacute conjunctivitis by sulphate of zinc The solution $^{1}/_{10}$ has the disadvantage of provoking a quite intense irritation, but the patients who can tolerate it are rapidly cured In very sensitive patients I replace it by the pomade of ichthyol I have only a very short experience with protargol, which in subacute conjunctivitis seems to me to be insufficient, as likewise nitrate of silver

Mr KOPFF—I rise to support what Mr Parent has said on the subject of the danger presented by the salts of lead in ocular therapeutics I have also had opportunity of seeing a certain number of patients treated by acetate of lead, who presented some plumbic incrustations upon the cornea and conjunctiva In presence of results of this kind we must consider acetate of lead a disastrous agent and proscribe it from our therapeutics As to protargol, I have not experimented with it, but I ask myself why we seek other medicaments when we have nitrate of silver at our disposition, which is the true specific of purulent ophthalmia of infants I have had the opportunity of seeing a great number of purulent ophthalmia of infants in the clinic of Mr Galezowski, who treated them all by his method of bi quotidian cauterizations with nitrate of silver $^{1}/_{10}$ The results are always rapid and excellent, cure is the rule when the infants are brought at first, before corneal complications I employ, also, at St Joseph's hospital, Dr Galezowski's method, and I have only to congratulate myself with its results That is why I do not see the necessity of seeking other medicaments, since the nitrate of silver, well and timely employed, has as sure action as possible Has Mr Darrier employed protargol in blenorrheal ophthalmia of adults?

Mr DARRIER—If I have not entered upon more details concerning different pathogenic agents of conjunctivitis it is because I wished to confine myself to the province of daily practice I know that purulent ophthalmia may be provoked by other microbes than the gonococcus, but today, clinically, three forms of conjunctivitis are established, they are Blenorrheal ophthalmia, acute catarrhal conjunctivitis of Weeks which, as Mr Morax told us, may be accompanied by ulceration of the cornea, and finally sub conjunctivitis with diplo bacilli of Morax It is upon these three forms only that my actual work bears I reserve for later study, diphtheritic conjunctivitis, trachoma, etc Certainly, I would not arraign nitrate of silver We ought to have for this product the gratitude which we owe to an old servant who has rendered us signal services, in spite of his faults, with which we have in the end familiarized ourselves But it is of the debutants of those who do not yet understand the delicate handling of this agent caustic in the highest degree, that we must ask their opinion on this subject Many of them will reply to us that it is a sword with two edges, which may do as much harm as good How many corneal ulcerations, how many productions of conjunctival false membranes have had for real cause cauterizations too energetic and too untimely? Well, these inconveniences do not exist with the proteinit of silver The solutions of this salt form a mucilage, the more onctious, the more they concentrate Applied upon the mucous membranes, there is very little irritation, as they do not coagulate the albumins neither are they precipitated by them, they impregnate and penetrate the epithelial cells, carrying into the depths of the tissues the bactericidal action of the argentic preparations Nitrate of silver, on the contrary, applied upon the conjunctiva produces a destruction of the epithelium, while at the same time it is precipitated from its solutions, which limits its action to the surface of the mucous membranes I have given up entirely weak solutions of protargol, and I no longer employ for cauterization with the brush any except the following solution Protargol 5 gr, distilled water 10 gr Let it dissolve spontaneously This solution is of syrupous consistency, adheres to the brush, and does not drop upon the linen and upon the vestments The cauterizations are made once or twice a day, and in the interval I instill three or four times, one or two drops of collyrium, 5 per cent., in order to sustain and prolong the effect of the cauterization made with the brush. Thanks to this treatment, regularly and promptly applied all the conjunctivites due to gonococcus and to the bacillus of Weeks will be promptly cured, those, on the contrary, which are due to the diplo bacillus of Morax will be rather respondent to the sulphate of zinc or to ichthyol For my part I think that until the discovery of the anti gonococcic serum we must consider the salts of silver as the most active against purulent ophthalmia, and it is our duty to seek that which with an equal efficacy shall present the greatest innocuity

Mr BOUCHERON—Is it the silver which acts specifically is it the acid of the salt? According to what we have just heard said by Mr Darrier it would seem that the protargol, which is not painful, would act everywhere by contact rather than by depth (penetration)

Academy of Medicine, San Francisco

At the meeting for the month of August, Dr J Henry Barbat presented a case of tubercular peritonitis in a child of fifteen months The child had exhibited only the symptom of abdominal enlargement with ascitis The fluid was not freely movable in the abdomen, but was sufficiently so to indicate its presence There had previously been a neoplasm of the skin on the chest, posteriorly, which had been removed when the child was about nine months old, this showed a microscopic appearance strongly resembling sarcoma There was a difference of opinion as to whether the abdominal tumor was a sarcoma of the spleen, or abdominal tuberculosis Operation revealed the nature of the disturbance Three months after the operation the child was still doing well Dr Douglas Montgomery said that he had seen this child in consultation before the neoplasm was removed, and had examined specimens of the mass and found they were very much like sarcomatous tissue He was therefore of the opinion, when he again saw the child after it had developed the abdominal trouble, that the latter was caused by a recurrence of the growth previously noted on the skin Dr E E Kelley reported a case of similar trouble occurring in a child three and one half years of age, on which he had recently operated, but without so good a result as in the case of Dr Barbat. The case of Dr Kelley was, however, somewhat different in that in Dr Barbat's there was a considerable amount of ascites in the abdomen, but in his case there was practically no ascites, the disease being of the fibrous variety and the whole abdominal viscera were practically glued together The peritoneum was thickened as much as an inch in places by this fibrous material The feces, examined for some days before the operation, showed tubercle bacilli in very great numbers As in Dr Barbat's case, the abdomen was treated to a stream of oxygen while open, but the result was as bad as had been expected, for the child died on the following day Dr Montgomery reported that he had examined some of the tubercles in the case reported by Dr Barbat, but that he could not find any tubercle bacilli, this did not show that there were no bacilli there, but that they were few if present Dr H M Sherman mentioned a somewhat similar case that had occurred in his practice recently There was slight enlargement of the abdomen, somewhat disturbed digestion, slight temperature, but no tumor and no ascites For some time he was of the opinion that he had to deal with a case of disturbance resulting from intestinal infection, possibly due to malarial poisoning On consultation the question of tubercular peritonitis was raised and it was decided to open the abdomen The condition was found to be one of miliary tuberculosis Dr Dudley Tait mentioned two cases which had been operated on for some other cause, and the peritoneum found on examination to be the seat of tubercular peritonitis Both cases did well after the operation He called attention to the great discrepancy between the findings of this disease at operation and on postmortem and was inclined to believe that many cases of so called tubercular peritonitis were self limited and had a tendency to spontaneous cure He mentioned some recent experiments on animals as to the absorptive action of the peritoneum and its relations to germs of disease, the experiments going to show that the peritoneum has a very strong tendency to throw off bacilli Dr Kreutzman was of the opinion that the question of diagnosis was not made sufficiently clear, and that a large number of cases reported as tubercular peritonitis were really something else He certainly found that where there were tubercles containing tubercle bacilli, the disease proved inevitably fatal but where there were simply tubercles without the presence of bacilli opening the abdomen would often produce a cure The pathology, he urged, should be more clearly studied and all efforts made to eliminate the doubt which was now present when the diagnosis of tubercular peritonitis is mentioned Dr Mc Monagle said that in his opinion these cases were often benefited but never cured, that the tubercular condition once established the fatal termination was inevitable. The [illegible] operation of opening the abdomen was fo[illegible] ment for from five months to eight years in [illegible] case had he noted a cure He recognized [illegible] of the disease, one with ascites, miliary tubercles, and few or no bacilli to be found in the tubercles, the other, with no ascites, the formation of large amounts of fibrous tissue in the abdomen and the presence of bacilli, while the former class was usually much improved by opening the abdomen, the latter class of cases did not benefit from this procedure With Dr Kreutzman, he believed that the diagnosis was by no means always clear, and that tubercular peritonitis was frequently given as the diagnosis when careful pathologic investigation would show some other etiology Adults did better after operation than children Dr Kreutzman reported a case of "Diabetes and Carcinoma of the Uterus" He first reviewed the recent literature on the possible connection between the two diseases There may be three explanations of the occurrence of these diseases together in some subjects, the diabetes may be the cause of the disease in the reproductive organs, it may be the effect of this disease in the uterus or adnexa, the diabetes may simply occur in a patient already having some disease of these organs After considering these three possibilities, he reported a case of a woman of 60 years who had been referred to him some time ago He found that she was voiding large amounts of sugar in the urine, and that there was evidently a carcinoma of the cervix and of the body of the uterus On diabetic diet and treatment the amount of sugar rapidly decreased Operation was decided upon, and the uterus removed by the vagina, the abdominal route not being chosen for the reason that more time was required in that case, and the diabetic condition contraindicated a long anesthesia Recovery from the operation was very rapid and satisfactory, and three days after the operation the sugar disappeared from the urine and was not again present, except at rare intervals and in small amounts, for the remainder of the patient's life The disease recurred in the right broad ligament about six months after the previous operation and was rapidly fatal The operative feature of the paper was discussed by Dr Huntington of Sacramento, and Dr MacMonagle of San Francisco

PRACTICAL NOTES

Dilute Caustic Potash in Lupus —This dressing has been found so effective by Unna that he now recommends it as superior to all other dressings used to date It never smarts, and the beneficial effect is actually remarkable in some cases —*Semaine Méd*, July 20

Application of Formol —To preserve and harden the central nervous system with formol in situ, insert a trochar in the nasal cavity, open through the lamina cribrosa, and introduce the formol through this passage —*Munich Med Woch* from *Deutsche Arch f Klin Med* x, No 5

Gall stone Diagnosis —The *Deutsche Med Woch*, of August 4, contains a communication from Czerny's clinic stating that in forty cases of gall stones tested (with one exception), the amount of sugar in the urine was more than normal—0 4 per cent and over—and fell much below normal after the removal of the stones

New Hemostatic —The comelina tuberosa was prized by the Aztecs for its remarkable hemostatic properties, and the Mexican physicians have recently rescued it from the oblivion of ages They find that it arrests epistaxis immediately, even in severe cases of traumatism, purpura hemorrhage, etc Several observations are reported in the *Gaceta Méd* of July 14

Electric Conductibility of Antitoxin —It has been established from a comparative study of normal horse serum and antitoxin that the freezing point, the osmotic pressure and the electric conductibility are all diminished proportionately to the amount of antitoxin contained The electric test may therefore possibly prove useful in testing the curative value of antitoxin serum —*Deutsche Med Woch*, July 7

Gosio's Rapid Test for Arsenic —The penicillium brevicaute grows with extreme rapidity and a penetrating odor of garlic in the presence of arsenic Abba detected arsenic by this means in one hundred and fifty hides from India in less than twenty four hours He recommends it as the most rapid, certain and cheapest test we possess for the detection of arsenic —*Munich Med Woch*, July 12

Treatment of Trachoma with Iodin —R Roselli of Rome reports 78 patients completely cured out of 100, with nascent iodin generated by administering potassium iodid internally, and when the iodin begins to be eliminated in the lachrymal secretions, he paints the upturned lid with oxygenated water Another method is to apply to the lid a 1/15 solution of the potassium iodid and then apply the oxygenated water The generation of iodin causes a slight smarting at first, which passes away in a few seconds to five minutes —*Semaine Méd*, July 20

Somatose in Syphilis —In syphilis and mercurial cachexia somatose is warmly extolled by Professor Fournier in the *Journ des Mal Cut et Syph* for March He has found it extremely effective in restoring strength and appetite in the anemic condition and nervous troubles that frequently develop in the course of syphilis It is especially valuable in the anorexia caused by mercurial cachexia and in cases of ulcerative processes in the throat and mouth, preventing the ingestion of solid food —*Vienna Klin Rundschau*, July 31

A Useful Device —A stand to use in applying casts and bandages to the pelvis, hips, etc, that has been in use a couple of years at Halle, has proved so satisfactory that it is described and illustrated for the benefit of others in the *Cbl f Chir* of July 9 The patient's back rests on a solid wooden stool, 20 by 20 cm and 30 cm high, beyond which projects an adjustable support for the head A tripod slides on a rod extending along the other side of the stool and the pelvis rests in a von Bruns' saddle mounted on this tripod The body is thus supported in three places, while an assistant holds the feet The stand can be adjusted to fit either a child or an adult

Picric Acid Intoxication —Picric acid is now used in certain industries, and intoxications from it are becoming more frequent The principal symptoms are a yellow tint over the whole body and in the mouth, pain in the epigastrium, dryness of the throat, depression, anuria and continuous cephalalgia In a case described by P Schwarz in the *Vienna Klin Rundschau* of July 31, a workman drank twenty grams, but prompt lavage of the stomach and intestines, with a diet of milk, white of egg and lemonade restored the patient The prognosis is usually favorable, permanent disturbances have never been observed

Irreducible Inversio Uteri —Duret treats this with 1, incision of the posterior cul de sac, 2, a median, posterior, vertical incision in the entire uterus from the vaginal incision to the fundus, 3, reduction of the inversion, 4, the incision in the uterus sutured down to the isthmus 5, reposition through the vaginal incision, the lips of the incision protected by the forceps, 6, suturing the cervix from the isthmus downward The vaginal incision is drained and left open, with gauze tampons inserted to prevent possible retroversion His patient, a woman of 22, had no hyperthermia and left her bed the fifteenth day —*Journ des Sc Méd de Lille*, July 9

Salicylic Acid and Salol in Pneumonia —De Becker of Antwerp proclaims that salicylic acid will cure and abort pneumonia with no other medication Besides its antiseptic action on the lungs, it liquefies and favors the expulsion of the sputa to a remarkable degree He gives 10 cg to children, every one or two hours, adults, 50 cg every two to three, or three to four hours, watching the heart, and varying or suspending the doses as the desired results are accomplished (Quoted in the *Cronica Méd*, June 15) R Liegel also announces that he has been successful in curing seventy two cases of pneumonia with salol, 8 gm a day, always combined with 50 gm pepper mint water, 200 gm water, and 5 gm "bitter" or any other tincture He gives a little ipecac to loosen the cough, with ice to the head when temperature rises above 39 5 degrees C —*Vienna Klin Woch*

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE

Per Annum in Advance	$5 00
Foreign Postage	2 00
Single Copies	10 Cents

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THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No 61 Market Street (Occidental Bldgs), Chicago Illinois

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SATURDAY, SEPTEMBER 17, 1898

SPLENOMEGALY WITH CIRRHOSIS OF THE LIVER

In 1894 BANTI of Florence described a new type of disease, which has since been known as splenomegaly with cirrhosis of the liver, or as BANTI's disease. The various instances of this disease which have since been reported, particularly in Italy and in France, now offer a good opportunity to study its principal clinical and anatomical features, and in a recent article BANTI[1] summarizes the knowledge of the disease.

As regards the etiology it may be said that the real cause is entirely unknown. The disease develops especially in young people and in the adult, as yet not more than one case has ever been observed in the same family.

The clinical course is divisible into three stages: first, the anemic, second, the transition stage, and third, the stage of ascites.

First there is noticed an enlargement of the spleen; in quite a few cases it has been demonstrated that this precedes all other symptoms. The spleen may reach a very considerable size, it has a smooth surface, rounded edges, hard, and, as a rule it is painless. Then come symptoms of anemia of the usual character. The blood shows a corresponding diminution in the number of red cells and in the amount of hemoglobin; poikilocytes and microcytes have been observed, but nucleated red cells are said to be always absent. There is no leucocytosis, and the proportion between the different kinds of leucocytes is normal. There is no trace of swelling of the lymph glands. The temperature is usually normal, but occasional attacks of chills, followed by fever, may occur at irregular intervals. This stage of anemia usually lasts from three to five years, but it may run along for as many as ten years.

The transition stage is marked by changes in the urine, the quantity of which is diminished, while urates, urobilin, and often bile pigments, occur; a mild general jaundice develops, the digestive functions are disturbed. This period lasts only a few months and is followed by the stage of ascites, which develops slowly and painlessly. The liver diminishes in size, the jaundice increases, the general symptoms of anemia become worse, very often there is an evening temperature. The changes in the blood also increase and death usually occurs in from five to seven months.

The pathologic changes consist in, *a*, the enlargement of the spleen, the capsule is usually thickened; perisplenic adhesions are, however, rare. On section the surface is deep red, with whitish lines and round, white, and hard nodules, which correspond to the Malpighian bodies, and *b*, the interstitial process in the liver.

In the ascitic stage, the liver is small, granular and hard; in the transition stage the surface may be just a little uneven, and the organ of normal volume. BANTI has not yet had an opportunity of examining a case postmortem that died in the first stage, but in cases in which splenectomy has been performed in this stage, the liver presented a normal appearance. Ascites does not occur until the last stage. In all cases examined the splenic vein and the portal vein, from the mouth of the splenic vein to the liver, have been found covered with dried, elevated patches, very similar to the sclerotic plaques so often seen in the aorta. The lymph glands are healthy. In the third stage the gastro-intestinal tract presents the well-known changes characteristic of atrophic cirrhosis. The marrow of the long bones is red and lymphoid.

Histologic examination of the spleen has shown the following changes: A few Malpighian bodies have normal structure; in others the periphery is composed of normal cells, while the arteries are surrounded by a zone of varying width, sometimes occupying three-fourths of the extent of the body, which consists of thickened connective tissue with few nuclei. This connective tissue is homogeneous and hyaline, and presents small spaces or slits in which may be one or two compact nuclei. Toward the periphery of the body the spaces become wider and contain more cells, the connective tissue becomes thinner and at last there is formed a coarse network which resembles somewhat the normal reticulum. The walls of the arteries in the Malpighian bodies have [illegible] completely with this periarterial hyaline fibrous tissue. The extent of the sclerotic zone is greater the further the disease has progressed. In some cases [illegible] fibrous nodules are found, wh[illegible]

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[1] Splenomegalie mit Lebercirrhose Ziegler Beitr xxiv p 21 [illegible]

Malpighian bodies These changes begin around the arteries, as has been demonstrated in the spleens from early stages of the disease, and they consist, as will have become clear from this brief description, of a hyaline degeneration of the connective tissue Irregularly-shaped, larger and smaller hyaline scales have also been observed, but their source and nature are not explained, in some cases thrombosis of the vessels of the Malpighian bodies has been found In the pulp the veins present, in the early stage, large cells upon their intima, so that the venous channels look in cross-section somewhat like gland ducts Similar cells may occur in the reticulum around the veins The network of the pulp is thickened, fibrous, of hyaline appearance, and the cells enclosed in the spaces are fewer than normal, but otherwise without any changes

The principal changes then, in the Malpighian bodies as well as in the pulp of the spleen, consist in a marked increase in the thickness of the reticulum, while the peculiar structure of adenoid tissue remains, hence the lesion has been labeled fibro-adenia by BANTI The exact genesis of this thickening has not yet been made clear

In the liver there is the usual interlobular proliferation of fibrous tissue characteristic of the so called alcoholic cirrhosis, but the process does not seem to reach the intensity of the latter disease In the marrow of the long bones which presents the characteristics of fetal marrow, the number of nucleated red corpuscles is not very great

BANTI has made numerous cultures upon a large number of different media, but without any results Microscopic examination of the blood, the spleen juice, and of the tissues have failed to demonstrate the presence of bacteria or other parasites

The only drugs which seem to have any influence for the better upon the disease are arsenical preparations, but the improvement is only transitory In three cases splenectomy has been performed by COLZI in Florence One patient died from independent puerperal complications, one young man recovered completely He was operated upon in the anemic stage, the disease having then lasted about six years The third patient, a woman, was operated upon between the seventh and eighth year of the disease At the operation the liver was found somewhat granular, but the patient recovered completely, and twenty-one months after the operation she presented no symptoms of anemia, or of disease of the liver

It is evident that this disease has nothing in common with LAENNEC's cirrhosis of the liver On the other hand, splenomegaly with cirrhosis of the liver, in the anemic stage at any rate, presents great similarity to a disease which is known in the Italian and German literatures as splenic anemia It might be claimed, for instance, that splenic anemia represented only a stage of splenomegaly The exact nature of the so called splenic anemia, and of another condition, or possibly the same condition under another name, namely splenic pseudoleukemia, remains very obscure, and the various conceptions of what is to be included under the term, or terms, are somewhat confusing, and BANTI is not able to clearly define the relation between splenomegaly with cirrhosis of the liver and splenic anemia or pseudoleukemia The only decisive means of differentiation would have to be sought in the etiology of the processes, which is as yet completely unknown in all three

BANTI looks upon a chronic intoxication proceeding from the spleen as the most reasonable cause of the anemia which characterizes this disease This view he finds is supported by the fact that when the spleen is removed the anemia disappears Furthermore, he looks upon the chronic sclerotic splenic and portal endophlebitis, which in the early stages is confined to the splenic vein, as indicating that poisonous substances are carried in the blood passing along this route He regards the cirrhosis of the liver as a direct result of the disease of the spleen If poisonous substances are elaborated in the spleen, then they are constantly carried through the liver and result in the end in hyperplasia of the connective tissue, in somewhat the same way as the poisonous substances absorbed from the intestinal tract in chronic alcoholism are supposed to produce typic atrophic cirrhosis Finally, BANTI calls attention again to the fact that the only curative measure known is the removal of the spleen

The literature concerning this interesting condition described by BANTI is not very extensive In the bibliography attached to BANTI's article, which is presumably complete, there are only ten references It is to be hoped that new cases may soon be described in American literature, and that the relation of splenomegaly with cirrhosis of the liver to splenic anemia and splenic pseudoleukemia may be more definitely established

A NEW PATHOLOGY IN EPILEPSY

Epilepsy, one of the oldest diseases of the nervous system of which we have knowledge, is, as regards its etiology, and particularly its pathology, practically but little known The names given it by the Father of Medicine, "sacred malady" and "malady of children," show in what light it was regarded by the ancients For centuries the most ridiculous and incredible theories were advanced by the best men of their time with truly commendable zeal, but real progress can not be said to have begun previous to the statements of reflex irritation advocated by MARSHALL HALL Since then decided advances have been made along many lines, due especially to the magnificent work of HUGHLINGS JACKSON, but even to this day authorities differ greatly as to causation in a vast majority of those afflicted Age, sex, heredity, insanity, organic brain disease, trauma, syphilis, chronic alcoholism of parents, must all be regarded as important considerations. Many curious facts in respect to etiology have been reported of late years; errors of refraction, especially astigmatism, are of common occurrence; compression of the carotids producing cerebral anemia, bradycardia, diabetes, the diminution of the toxicity of the urine previous to an attack, pressure upon an undescended testicle, all in a considerable number of instances by eminent observers. The rôle of trauma in the causation of epilepsy is too well grounded to be easily shaken, but undoubtedly too many cases are classed under this head. Almost every individual, whether epileptic or not, can give a history either known to himself or narrated by his parents or friends, of a fall upon the head during childhood or at some later period and yet but a small proportion of the population suffer from epilepsy. Probably only a small ratio of epileptics, not over 2 per cent could rightly attribute their affliction to this cause. There remains then the major portion of the sufferers, in whom the etiology of their affliction and certainly pathology, is obscure, that must be classed under the term—for want of a better—idiopathic epilepsy. For the clearing up of obscure points of this disease, too much attention has doubtless been directed to the nervous system, as is the case of insanity, with a passing over with but trifling consideration other pathologic conditions existing in the body.

For the study of epilepsy, both the clinical manifestations during life and the pathologic findings after death, there is probably no better place in the country than the Ohio State Hospital for Epileptics at Gallipolis. There are usually from six to seven hundred inmates, twenty to thirty of whom come to the autopsy table during the year. Lately a well appointed laboratory has been fitted up, and the research work placed under the able direction of Dr. A. P. OHLMACHER. The latter, in his researches into epilepsy, determined to examine not only the central nervous system, but all other parts of the body as well, with the hope that some constant pathologic lesion might be found upon which statistics of some value could be compiled. His efforts have been crowned with considerable success, as demonstrated by his report in the *Columbus Medical Journal* of July 19, "The Persistent Thymus and Other Morbid Anatomic Peculiarities in Certain Cases of Epilepsy." His studies comprise eighteen cases, in eight of which more or less constant pathologic features were presented. All the victims were in the young adult period of life. Six of the eight were undoubtedly grand mal, therefore "idiopathic." A curious fact is that three of the eight died suddenly. One other committed suicide and one died of exhaustion after an attack of mania. Four of the eight had attacks of mania at more or less regular intervals. The summary of his findings can be perhaps best stated in his own words: "Persistent and enlarged thymus gland, a pronounced enlargement of the intestinal and splenic lymph-follicles; a more or less pronounced hypertrophy of the lymphatic glands, and the lymphadenoid follicles of the tongue, larynx, trachea, esophagus, tonsils and even of the stomach; a narrowing of the arteries; an abundant development of fat and certain osseous changes indicative of old rickets. Not all the abnormalities comprehended in this summary were present in a single case, though the persistent thymus, with one or several features added, was constant." OHLMACHER, in conclusion, calls attention to enlarged thymus occurring in two other conditions, namely, "laryngismus stridulous" and "sudden death in adults with no assignable lesion," and lays special stress upon the sudden death of his three epileptics, in all of whom it might again be remarked that the thymus was enlarged. He regards the "lymphatic constitution" occurring in these three affections and the sudden dissolution that appears so commonly as more than a mere coincidence. It is to be hoped that other institutions will direct their attention to the findings of OHLMACHER, so that the great pedestal for the successful treatment of any disease, a morbid anatomy, may in this most obscure of affections be founded upon a firm basis.

BLOOD EXAMINATIONS IN SURGICAL AFFECTIONS

While medical men were glad to seize the opportunity of increasing the strength of their diagnoses by examination of the blood, the surgeon, until late years, has always held rather aloof, trusting more to the physical signs and constitutional reaction than to anything else. With the difficulty often accompanying the diagnosis of appendicitis, he at last became eager to accept any additional evidence that might be offered, and the hematologist has often been called upon for help. So frequent became these examinations in appendicitic affections that several important points, both in prognosis and diagnosis, have been fairly well established. As one would naturally expect, purulent appendicitis is usually accompanied by leucocytosis. This symptom is very common, and in a way may be looked upon as a good prognostic sign for this reason. If your diagnosis is reached by other symptomatology, and no leucocytosis is present the prognosis is bad. The size of the leucocytosis is of some importance. A count in the neighborhood of ten thousand means that the purulent collection is walled off from infecting the general peritoneal cavity, that the case, even if no adhesions have formed is a mild one or as hinted above the patient is in a serious condition the economy reacting very little if at all to the infection. The increase in the number of leucocytes may be looked upon as th

an army to resist invasion. On th

high leucocyte count is not neces

nostic sign, but this one point must be considered, whether or not there is a steady and progressive increase This latter symptom is a dangerous one and urges instant operative interference If after a leucocytosis has become stationary and, of a sudden with increased severity of the constitutional symptoms, we find a sudden increase or marked decrease in our count, we are safe in concluding that a purulent collection, once walled off, has burst its bounds and is invading the peritoneal cavity, the increase or decrease, depending, as mentioned above, upon the reaction or the reverse of the system to the increasing infection Many cases of appendicitis, especially where no tumor mass can be discovered, are confounded for a time with typhoid fever, on account of the abdominal pain and febrile reaction In the early stage the Widal test would not be of much value, but the presence of a leucocytosis would be in favor of appendicitis, unless the typhoid were complicated with pus formation, in which case the count would give us no aid If an attack of appendicitis is progressing toward a favorable termination, the number of leucocytes will fall steadily, so that the daily examinations of the blood in this disease are of the greatest service The importance of a leucocyte count will be the more appreciated when it is taken into consideration that the presence of this symptom alone will differentiate appendicitis from the various forms of disease and colics accompanied by pain in the right iliac region The one exception is pyosalpinx

A problem that has been puzzling surgeons for many years is what to do in the condition known as "shock" Of course the causal factors must first be considered The next important point is the question of concealed hemorrhage, so often the forerunner of shock If we know that such hemorrhage be present the indication would be to in some way reestablish the normal amount of fluid in the arterial tree, and the best way of accomplishing this is by transfusion of the normal (six-tenths per cent) saline solution On the other hand, if shock is due to compression of the brain, transfusion would work in most cases irreparable harm Whether or not blood has been lost in any considerable amount, can be absolutely determined by the blood count, in previously healthy subjects the number of red corpuscles and amount of hemoglobin being diminished in direct ratio to the amount of blood lost from the vessels The leucocytes are diminished but a short time, with the slightest reaction on the part of the system, leucocytosis, both relative and absolute is soon induced It is astonishing what an enormous amount of blood can be lost from the general circulation before death supervenes DACOSTA says that one half of the blood can be lost before fatal syncope comes on MIKULICZ, than whom no surgeon is better authority on hematologic subjects, advises never to undertake operation "when the hemoglobin is under 30 per cent," so that it is probable that he has had cases in which the blood has been below the limit of DACOSTA, and yet not have perished immediately

In malignant disease, blood counts and examinations have been reported without number Until lately, however, not much of any practical diagnostic value has been offered It has been known for some years that after an operation of any magnitude, involving the loss of some blood, some time elapsed before the hemoglobin percentage began to rise This interval of time was known as the "regeneration time" and was usually reckoned between two and three weeks In malignant diseases, as demonstrated recently by BIERFREUND, it is fully a week later before the hemoglobin begins to climb the scale, and at that never reaches the point it held before the operation, even though that point may show grave anemia

THE SANITARY RESULTS OF OUR CONQUESTS AND ANNEXATIONS

The addition of tropical territories and population to our national dominion has certain medical and sanitary bearings that are well worthy of careful consideration This statement does not necessarily imply that such additions involve any elements of national peril in a medical point of view, though that has been urged as a fact by those opposed to such territorial expansion, but simply that it enlarges the range of our national hygienic supervision and brings some sanitary problems more nearly home to us than was formerly the case Instead of involving new dangers the extension of our rule ought to eradicate existing ones to a large extent and favorably modify others where their complete avoidance is impossible Warm countries are commonly regarded as unhealthy, and they certainly have some special disadvantages in a hygienic point of view, but it is a fact that ordinary sanitary precautions are hardly anywhere so habitually disregarded as they are in every tropical region, especially by the whites there residing Dr MANSON and others have shown that most of the formidable disorders peculiar to the tropics are more or less avoidable, even by those who have no inherited or racial immunity, and that there is no good reason to assume that the white race can not flourish there, so far as their physical welfare is concerned

Whatever influence the United States may have over the future of Cuba, whether as a friendly or protecting power, or as exercising actual dominion, should be for the mutual good, and this is particularly true as regards matters of public health The sanitary reformation of Cuba will be for us an even greater blessing than its political redemption, for heretofore and up to the present it has been a continued threat of impending pestilence, solely on account of neglect of sanitary precautions and decent hygienic regulations With yellow fever endemic in Havana and Santiago, there will always be a chance of its introduction into our Gulf ports, and whatever arrangements are made as to the future of Cuba, it is the duty of our government to see that adequate guarantees are given that the there existing anarchy in sanitation is to be quickly and thoroughly abolished This will be a result of the war that will be well worth a large part of its cost

Porto Rico, as a territory of the United States will come directly under our laws and whatever dangers to health exist there can be met with our own resources It is said to be a comparatively healthy island for a tropical one, and it may be no serious sanitary questions will be raised

Much was said by the opponents of Hawaiian annexation about the danger from the leprosy infection, of which it is a center Whether this danger will be in any degree increased by annexation is open to question, our commercial and other relations have always been close, and especially so of late years, since the reciprocity treaty has been in existence Hawaii has been practically an American dependency for many years, and political union can not very materially alter the conditions So far as it can have any effect it should be for the better, as it puts matters under our own control and gives us the power to remedy any existing defects in hygienic conditions or sanitary laws That we can improve upon the present regime is perhaps doubtful as far as leprosy is concerned, as it does not appear that more precautions are taken anywhere against the spread of this disease, or a more thorough system of isolation carried out than is the case in Hawaii The fact, also, that there are only about a dozen white lepers in the settlement on Molokai and these presumably all that could be found in the islands, would indicate that the extension of the disease is almost exclusively among the natives, whose habits seem especially to favor its spread In any event the danger of leprosy infection to our people would seem to be slight, less indeed than from the Louisiana lepra focus, where a much larger number of whites appear to be infected In other respects Hawaii is certainly a healthy region and the white race appears to flourish there, aside from the leprosy question no serious sanitary problems are involved in its annexation

The Philippines which may also come under our rule, present the usual hygienic conditions of warm countries with large rainfall Some of the islands like Mindoro and a few others of the group, are notably unhealthy, and the uncultivated portions of some of the larger ones are also subject to fevers etc In other respects however, there seems to be no reason why with proper precautions Americans who may go there should not be as well cared for as anywhere else within the tropics If they come under our flag we may find that we have to meet some new conditions, but the sanitary problems will probably not be the most serious ones

The results of the war ought not, in a medical point of view, to be on the whole otherwise than beneficial, as it will put it in our power to remedy existing abuses, and it should not be anticipated that new ones will be created A decent military administration of Santiago has, it is said, already stamped out yellow fever in that city, where it has existed endemically, and a like result may be anticipated under perhaps greater difficulties in Havana and elsewhere

A STORY OF CHICKAMAUGA

Members of the AMERICAN MEDICAL ASSOCIATION have no doubt been troubled in mind during the progress of what we may now call the late war, by the continued attacks in the press on the Medical Department of the Army, from the Surgeon-General at the War Department and his officers of every grade in the general and division hospitals down to the gallant medical men who dressed the wounded under the fire of the Spanish sharpshooters at the crossing of the Aguadores river The sanitary conditions in the home camps have also been severely criticised, and the onus laid on the shoulders of the Medical Department The injustice of this criticism has led Major R STANSBURY SUTTON, Chief Surgeon U S Volunteers, to discuss with a free pen the conditions existing in the camps in Chickamauga Park (see p 650) It takes a man of large experience and mature mind to deal with these subjects, for some of them are of a nature so delicate that the average man would probably pass them over in silence because unwilling to suggest the existence of a stain on the moral character of any of the gallant young men who volunteered to carry our flag to victory Dr SUTTON charges much of the sickness that prevailed in the Volunteer camps at Chickamauga to the dissipation of the men It would probably be difficult to verify the alcoholic excesses by any official record, as men on pass usually sober up before returning to their commands, and the men reported as seen by the Doctor were probably all on pass Whether his estimate of the prevalence of venereal disease will be substantiated by the official statistics remains to be seen, but we recall the fact that these diseases were so prevalent in certain army corps camped near Memphis and Nashville during the Civil War that special military methods had to be adopted for their suppression The medical officers on duty with the ambulance corps at Chickamauga no doubt did their duty in drilling the men of the hospital companies in first aid and if they spent their leisure otherwise than in medical reading and study allowance must be made for the deteriorating influences of camp life The Red Cross and other national relief associations receive due credit [illegible] and the stories of cruelty and neglect [illegible] the newspapers are shown to be false

CORRESPONDENCE

A Grave Menace to the Public Health

New Orleans, Sept 8, 1898

To the Editor —Without entering into the unseemly wrangle that the Medical Department of the Army is engaged in, I would like to call the attention of the profession through its own Journal to two new diseases—new to the physicians who have spent their lives in the United States, but old to those experienced in diseases of tropical countries—I allude to tropical dysentery and tropical anemia, the former being due to the ameba, the latter to the ankylostoma duodenale Our soldiers returning to their homes along the many railroads that ramify in every direction over our country, are liable to infect the entire country with the germs of these two insidious and apparently, in their incipiency, ordinary affections If it be true, and I think every intelligent physician holds that view, that typhoid fever is pre eminently a preventable disease, and consequently its alarming prevalence in all of our camps is *criminal* and due entirely to ignorance, which has been said to be worse than crime, how much more than criminal is it for our medical department to aid and abet the incompetent war department in scattering broadcast over our fair land two of the most deadly diseases of the tropics? It is claimed with the amplest authority that every case of typhoid fever originating in a camp is due to the criminal neglect or ignorance of the medical officer, some colonel or major, in charge of that camp Now, without questioning the right of army surgeons, who, by the way, resent being addressed as physicians, to allow their charges to become infected with death dealing germs, I do protest as a civilian, a plain doctor, to their scattering these germs all over the country among civilians, who have no captains, majors or colonels to treat them I claim that one case of typhoid fever, amebic dysentery or tropical anemia traveling from Montauk Point to California, is liable to infect any or every stream between the Atlantic and Pacific that he crosses It is high time our distinguished Surgeon General warned the bargain counter politicians in the war department that such things must cease, and cease at once None know better the grave danger that confronts us than Dr Sternberg I beg pardon *General*, for calling you Doctor, but your reputation as a scientific, accurate physician is so well known that I had forgotten the measly little star on your collar Now the regular army, medical and lay, let no opportunity slip of finding fault with the volunteers and the civil surgeons, so let them bear the blame as they claim the glory in this matter, for let it be distinctly understood that none but surgeons in the regular army have a word to say about this matter The Secretary of War, if he consults any medical men, consults those in authority I hold that the time has come when the medical department of the army should be governed by common sense founded on mere known facts, facts known to the medical and lay world alike today

Today there are said to be cases of yellow fever in this section of the country Do we gather up all the cases and divide them up in all adjoining States? No The Marine Hospital Service establishes camps of detention for those who have been exposed to the infection and keep them there ten days before allowing them to invade healthy territory The sick are strictly isolated and kept so until recovery or death Eight hundred marines were camped for many weeks at Guantanamo and their health remained excellent, and why? Because the surgeons of the Marine Hospital Service not only understand preventive medicine, but they *practice it* Every man in that Service is qualified for the work he is assigned to The War Department seems to defy all known laws of sanitary science in pursuing a course diametrically opposite to that adopted by the Marine Hospital Service, as well as all State and municipal health officials All soldiers suffering from dysentery, anemia (tropical) or typhoid fever, should be confined in suitable hospitals and kept there as long as the microscope shows them capable of being a source of infection to others All their dejecta, urine as well as feces, should be subjected to sufficient heat to destroy germ life

All red tape should be brushed away, and instead of moving camp every time the camp becomes infected through the grossest neglect of all hygienic and sanitary laws, the medical officers responsible for such a condition should be removed on the ground of incompetency, and in their stead should be appointed men of known ability, men who are major generals in the warfare against filth and filth diseases In every large city on this continent can be found physicians who have spent years of their life in this branch of medicine The Government should employ such men at salaries commensurate with their ability Good physicians are cheap at any price, and our Government should promptly employ the best What would happen to the health officials of Chicago or Washington if 10 per cent of their population should be stricken with typhoid fever within sixty days? The residents of those cities could not conveniently change the location of the cities every sixty days, but they would most assuredly change health officials, who, in turn, would change the sanitary conditions

Before closing, I wish to state that this article was not written to criticize the army surgeon, for I know full well his worth, his faithfulness and his ability The gifted head of the Service needs no one to defend him His many contributions to medical literature entitle him to say with Horace "*Exegi monumentum perenniusære*" What I have written is purely in the interest of the public health of the nation I refuse in advance to enter into any controversy with bureau doctors, whose time is paid for by the government and hence worth nothing to them

"Facts are far superior to reasoning "—*Hippocrates*

Very respectfully, T S Dabney, M D

The Treatment of Typhoid Fever

Chicago, Sept 10, 1898

To the Editor —While much, of late, has been written on the treatment of typhoid fever, I feel that a brief statement of my experience may be of some value to others, especially as I seem to have met with greater success than anyone else whose reports I have read I have thus far hesitated to relate my experience, because of the fact that when I changed my location several years ago, to adopt a more exclusive practice, I destroyed some of my records However, I can recall at least twenty eight cases in my last four years of general practice, and I think there were more in that period But one can easier recall deaths than cases Two deaths occurred among my typhoid fever cases during the four years in question, but one of these two cases was moribund when I first saw it It was the case of a young man brought home from the pineries, suffering with the fever When I first saw him he was delirious, and he died two or three days later The other case was a middle aged man who was allowed to get out of bed frequently, but contrary to my instructions, and suddenly expired, although his condition had not been particularly alarming No postmortem was held

One of my cases of typhoid was a robust farmer, who recovered, but prematurely left home for a week to attend to some business He returned sick, having a premonition of pending death, with what I took to be diphtheria He died in a few days Postmortem revealed the intestines normal, but kidneys greatly congested Thus it will appear that in reality I only had one death among the cases which I treated from start to finish

My treatment had special reference to the following dangers: loss of vitality, germ breeding in the intestine, perforation and hemorrhage

The first evil was met by isolation in as quiet a room as accommodations afforded I strictly prohibited visiting by friends on penalty of my quitting the case Relatives were allowed to visit for a few moments during certain hours of the day I often had much fighting to do on this point, but I pushed my demand with severity and invariably won respect in the end A glassful of milk was given punctually every four hours, supped from a spoon When half the glassful was taken a few minutes' rest was given before the remainder was supped Sometimes a dose of lactopeptin or liq pancreatin followed the milk Grapes, if procurable, were allowed freely, as was also cold water to drink in small quantities at a time Every four or six hours, and sometimes oftener, the entire body was gently wiped with a soft piece of muslin dipped in lukewarm water containing a teaspoonful of bicarbonate of soda to the pint The wiping and drying was done in patches, and the proceeding was not only gently but patiently accomplished This process of cleansing and cooling had the effect of mild massage and was invariably refreshing if done *gently* and *slowly* Frontal headache was usually relieved by dipping a piece of muslin in a solution of cyanid of potash in laurel water (10 grains to the ounce) and laying it on the forehead for ten or thirty minutes

The second point was supposed to be met by increasing the flow of bile into the intestine with one to three grains of calomel twice a day Codein was given if griping was experienced The calomel was kept up until the crisis was over

The third danger seemed to be met by giving three or four drops of rectified turpentine every four hours, to diminish the gas in the inflated bowel and thus reduce the liability to perforation from distention of the bowel and the pressure of the gas on its ulcerated surfaces Kidney complication was watched for, but the turpentine was seldom suspended if the bowel was markedly tympanitic

The fourth point—hemorrhage—seemed to be forestalled by giving a dram, more or less, of the fluid extract of hamamelis every four hours About twelve years ago I read an article in the *British Medical Journal*, by Shoemaker of Philadelphia, on "Hamamelis as a Vascular Constringent, etc" I then began to use it in a variety of varicose and hemorrhagic cases and was so favorably impressed with it that I concluded that its constringent, astringent and tonic properties would be serviceable in typhoid fever, as a preventive of hemorrhage, if nothing more I therefore adopted the following prescription, which was only modified to meet the factors of the personal equation

℞	Spts Terebinth Rect	ʒi
	Spts Juniper	ʒss
	Fld ex hamamelis (P D & Co)	℥ii
	P acacia	℥iss
	Aq qs ad	℥vi

Sig —Dessertspoonful every four hours while awake

All the cases ran a moderate course and seemed to be abbreviated, as compared with my experience for ten years prior The diarrhea seldom called for interference Medicine and milk alternated every two hours, but were, as a rule, not allowed to interrupt sleep for two hours more if sleep continued that long The cases were mostly sporadic and mostly in the country Several families had three or four cases at the same time A few were fat, flabby women of very low physiologic tone

J Sanderson Christison, M D

The "New Interpretation of Operative Principles"—A Pertinent Question

Kansas City, Mo , August, 1898

To the Editor —What should be the attitude of the "science mind" in regard to discoveries and theories, revolutionary in their character and tendencies in medical science, in other words, the duty and obligation of the scientific physician in respect to "new interpretations of long accepted basic principles in medical science now being promulgated" Unfortunately our wording of the subject is wordy, we trust our discussion of it will not be found mere words It is said, history repeats itself Up to the beginning of the fifteenth century the Ptolemaic system was the accepted astronomic science All discoveries of new planets or fuller knowledge of known ones was adjusted to the recognized Ptolemaic plan of the earth as the central body Many "hitches" in the workings of the scheme and anomalies arose here and there and again and again, but they were silently ignored or explained on some hypothesis, or openly confessed as something needing illumination and elucidation This was the condition of astronomic science for many centuries Meanwhile patient investigators had been at work studying the difficulties that presented and the theories of explanation given Light dawned here and there, more rational, yet still crude, ideas were conceived, until at length Copernicus, gathering the converging rays of light, discovered the error of the ages and installed the sun as the central orb, and promulgated what has since been accepted and termed the Copernican astronomic plan With the sun as the center, all the planets fell into their natural places, and harmony and beauty reigned The disagreements in the various theories and hypotheses soon disappeared, untenable ones were discarded, and though there have been added by discovery new worlds to the system, and more exact computations of distance and of plane of orbit, etc , yet no absurd theories have been projected, no fanciful hypotheses have been conjectured, agreement and harmony have prevailed from that date, because, at length, a complete science of basic principles had been constructed

Notwithstanding all the acknowledged crudities and inadjustable inharmonies of the Ptolemaic theory, "It required one hundred years to develop a comprehension that any scientific advantage would accrue from a review of the alleged situation" (Dunham) So of course the new theory was ignored or ridiculed and combated, and only slowly, tardily and laboriously commanded, and finally obtained, recognition

The question underlying the inquiry with which this paper began, is, Will the scientific medical man ignore and neglect, or will he boldly face and investigate "A New Interterpretation of Operative Principles," which are to the last degree revolutionary and iconoclastic? It will not take a hundred years to develop a comprehension of the scientific advantage to be derived from a review of the prevailing theory of medical science That review has long been in progress A medical unrest has long been apparent Dissatisfaction with the old and long established views and principles has been stirring the minds of many for years Medical literature, especially as seen in medical journals, presents an aspect of confusion and fanciful speculation, the most absurd and groundless theories being entertained

The scientific mind asks, Why all this? and foundation principles are being examined The results of this will soon be apparent, in fact, are already appearing As voicing what we here surmise or affirm—impatience with the unscientific, dissatisfaction with the crude and imperfect, ambition for and attempt to reach the ideal—read the magnificent address of Dr Musser before the American Medical Association at Denver on "The Essential in the Art of Medicine" Polypharmacy and a blind following of precedent with any practice of the "art of medicine' not founded upon and suggested and also justified by the "science of medicine,' must certainly have received its death thrust from his well aimed dart

And now comes that to which we call special attention and which we confess aroused our question and suggested this paper—Dr Dunham's Lecture in The Journal of the American Medical Association of July 2 1898 "A New Interpretation of Operative Principles" This is a part only of the title, but abundant for our purpose The Operative Principles "A New Interpretation" of which is all Dr Dunham in his [illegible] esty claims, are as old as medicine itself, and are to be found in medical literature all down the ages to the present Yet the theory of medical teaching up to the present day is one of confusion as to the nature and limit of these operative principles A new, that is, a correct, interpretation has been sadly needed, and to the want of which may be charged the fanciful, erroneous and absurd theories and isms and schools of the past and alas of the present

The status of medical science as taught and accepted today justifies the following arraignment of its position 1 It is unsettled as to any consensus of view of the nature of vital force 2 It assumes that positive conclusions in regard to this essential point are impossible in the present condition of medical knowledge (Mandsley) 3 There is confusion as to recognized operative principles, because these are supposed to be vital and otherwise It is accepted that operative principle is inherent to and active within the vital doman, it is also assumed and understood that operative principles, from without become active within the human organism "Active medical principles, active causes of disease, may be introduced and take part in operating the human organism" (Dunham) Now here we run into a labyrinth of confusion For, back of the study of the nature of the forces which present disease phenomena, is the consideration of the nature of the forces which operate the machinery of life (Dunham) This is the question of vital force, of which, confessedly, there is at present no solution The most vital question in medical science of the hour is, as to the precise nature and limitations of the forces operative in the living organism Despite the fact of the acceptance—and assumption of their correctness for ages—of the medical principles stated, we must go over the ground again as to the nature of vital force Do all operative principles inhere in the vital domain or are there supplemental forces which can be introduced from without? Now here lies the serious error of operative plan, as set forth by Dr Dunham "The teaching of medico biologic science as being based on functions and operative principles derived from both within and without," while he maintains that true "medico biologic science is based entirely on the functions and operative principles, which originate and control all the activities of the human organism, physiologic, pathologic and therapeutic, and those arise from, inhere in and are confined to the human organism" There is no operative principle outside the vital domain which may be imparted or conveyed to it Drugs contain no operative principle by which disease can be removed and normal conditions regained They do not act In illustration take the law of physics "A body at rest tends to remain at rest" It remains at rest until some force outside itself moves it, but it has no "tendency" anyhow or anywhere, it is absolutely inert and forceless Drugs are inert and inoperative so far as any operative principle or force in themselves is concerned In the realm of nature the higher dominates the lower In the natural kingdoms, animal, vegetable, mineral, the higher is closed to the lower The animal reaches down to the vegetable and takes it up into itself The reverse is never the fact (Drummond) A transition of inorganic into organic, even by chemico electric operation, is not tenable The belladona test of death illustrates the argument A drop or two in the eye will dilate the pupil if vitality remains, no response is obtained if life be extinct Even if cerebral trauma vitiate a part of our test, eliminate that from the case and the point we make is established, the operative principle is alone in the vital force energies *Vis medicatrix naturæ* will express the true doctrine of therapeutics A handful of seeds were found in an Egyptian mummy hand, transferred into suitable soil they produced a beautiful plant Vital force in the seed required conditions not found in the dead hand, but supplied by contact relation with the soil. So the drug in the living eye is inoperative in itself, yet its presence and contact with the living tissues supplied the condition on which sensation arises, sensation being a life function, dilation ensues, and since sensation is a life function only and not a mind function, dilation is involuntary (Dunham) There is truly a place for drugs Therapeutics may as truly use medicine as vegetables use mineral, and in the same general way, the operative forces initiating from the higher Dr Musser is mainly right when he says "I thoroughly believe in drugs, I am sure I have seen an effect produced" The difference is merely in the standpoint of the operative forces involved, but a vital difference, for all the "vicious therapeutics" (Dunham) of modern practice arise from this error

This "New Interpretation of Operative Principles," a part only of which is touched upon, is the outcome of that unrest and dissatisfaction so long felt Glimpses of this true science were dimly and hazily, yet nevertheless really, seen by one and another in the centuries past Probably Sydenham, certainly Stahl, whose "Mysticism" contained the idea of the "anima" as the cause of both disease and cure, had more than a glimpse His teaching (supposed to be a hybrid, having as parentage the physiology of Descartes and the psychology of Van Helmont) that the "anima" or "force" forms the body, directs in all its functions and, mayhap, by negligence or want of wisely directed effort originates disease, which it at once attempts to cure by the activities and functions of its various parts, when modernized a little further, will find a place in the science now building on 'The New Interpretation of Operative Principles" Blumenbach was not far out in his reckoning when he esteemed Stahl as one of the most profoundly wise physicians the world had ever seen The men who half a century ago talked of "vitality," which when once "expended can never be regained," who proposed by therapeutic effort to "correct nature or help nature," and oftener it may be "let nature alone" were wiser than their generation Yet it was reserved for today for the clearer and fuller discovery of these central principles "Vitality is a distinct force and every pathologic change is consequent upon vital action," was a profound thought, prophetic of consequences in the near future, which Dr Lionel S Beal of London launched forth at an opportune moment two years ago Von Virchow, a year later, seeking in the mazes for "the point at which medicine begins to form a part of biology" and devoting the last days of his life to "establish and spread the idea that pathology should be considered a branch of biology", the American editor who, later yet affirmed, "there is no drug yet discovered, unless it be alcohol, which adds to the forces of the body," were pioneers in the field where Dr Dunham realized his "find" And now, in place of the unsolved problem of vital force, in place of confusion as to the nature and limitations of operative principles, with all the theories and hypotheses ingeniously contrived to make a whole of three halves, we shall have the rational and completed twentieth century science of medicine

Cuvier's teaching that "the first question in science is always a question of method," when accepted, revolutionized the previous systems of natural history, at least the classifications, and installed the method of investigation and experiment in place of mere "long distance" observation So this change in the "interpretation of operative principles" will work as great a revolution in medical teaching and science The same line of thought which we have pursued in therapeutics will be found equally applicable to pathology, and will overthrow much of modern theory and speculation as to the causes of disease Not to pursue the theme further, we maintain that it is absolutely incontrovertible that the "new interpretation of operative principles" is correct Whether the science built up to harmonize with the new operative plan be complete or not remains to be seen And yet this does not fairly state the point, for the "new interpretation of operative principles" grows out of the science itself and is part and parcel of it

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The Troops in Santiago

NEAR SANTIAGO, July 13, 1898
[Delayed in Transmission]

To the Editor —Since my last on the 2d inst , yellow fever with its usual attendant scare has made its appearance in the camp of our army, nor is it anything but as a natural sequence of the violation of both the laws of health and ordinary precaution

After notification to Spanish authorities that Santiago would be bombarded after twenty four hours the foreign consuls in the city asked permission to let non combatants and foreigners pass out General Shafter granted the request, which was perfectly proper and most humane, but the great and inexcusable mistake was to allow them to pass through and disseminate among our camps and to have them hauled in our commissary wagons to Siboney, some nine miles distant, where is located our general hospital and the point of debarkation of troops and the embarking of our sick and wounded There are two roads leading to the northwest and north of Santiago where refugees could have gone and our troops would have been safe from contagion

Now to slightly recapitulate, for in my last I mentioned the want and great need of proper army sanitation On landing, both at Baiquiri and Siboney, our soldiers were allowed to enter and dwell in abandoned shanties, for that is true of the so called houses At Siboney two of the houses were converted into hospitals for the reception of the wounded from the battle of La Guacima In one room were four cases of measles within six feet of the wounded No doors closed any of the openings in the house Soldiers were pushed rapidly along, advancing without sufficient food, as the commissary department was landing supplies very slowly indeed There was and is bitter complaint about the commissary department The sun was quite warm and the troops marching rapidly on scant food—frequently a few hard tacks and water their only sustenance for twenty four hours or more—were unable to carry their rolls, hence they threw them aside, the result is that many soldiers are sleeping in the open air and on the damp ground Hospital tents had been established by Dr Cooke two miles and a half west of San Juan Hill, where General Hawkins made his brave charge, but the conflict was so fierce that the tents were soon inadequate for the wounded, and as tents were still on board the ships, poor wounded soldiers were compelled to lie on the wet ground for days, when they were removed to Siboney to the general hospital Ambulance service was very good, but the supply of ambulances was too limited , the result was that one half the wounded were hauled from the temporary field hospital to the division hospital in commissary wagons, which caused great suffering As I dressed the wounded for two successive nights I speak from observation

The pits for feces were not dug for several days after the canvas was pitched, hence an unpleasant odor from every thicket The wounded were compelled to go from twelve to twenty four and in some cases thirty hours without sufficient food Their appeals for soup or something to eat when I would go among them can never be forgotten The attending surgeons did all in their power to relieve the distress, but they had not the supplies sufficient.

The fever cases, not yellow fever, but fever caused by hot sun, bad water, sleeping unprotected, and last but not least from scant food, are now in little shelter tents only a hundred feet from my tent The number of this class of cases is increasing rapidly At this writing there are over 200 cases Just across a little pathway there are eight more shelter tents and in these there are six cases of yellow fever and two cases of suspected fever with no precautions whatever to prevent contagion, for along this path soldiers all pass every few moments Just to the east and not 200 feet away, is where the pack mules and commissary wagons camp nightly, all on a level and open ground where the water is now standing from one inch to four inches deep , this water slowly drains along between and into the tents of the sick There are plenty of hills and mountain sides near where comfortable tents could be located No pest house has yet been established at this camp At Siboney one has been established for nearly a week Just south of the general hospital at Siboney and across the railroad track is a coral reef too high for the sea waves to wash over it This reef is the nocturnal privy, and is one extended mass of filth, and effort is made to prevent it, although two pits are near Despite all the bad hygienic conditions the wounded are improving more rapidly than under more favorable conditions at home Of the surgery and fevers will write in my next , will state however that perhaps up to date 200 cases of yellow fever is a large estimate With rare exceptions the cases are very mild

The scare is worse than the disease, and want of hygiene worse than all ORLANDO DUCKER, M D

Dr Scheppegrell's Book

NEW ORLEANS, Sept 6, 1898

To the Editor —On my return to the city, a few days ago, I noted the reference to my recently published work on "Electricity in the Diagnosis and Treatment of Diseases of the Nose, Throat and Ear," among the Book Notices in your issue of August 20

An author naturally expects various kinds of criticisms, but the writer in medical literature has reason to believe that his work will receive fair attention at the hands of the more important medical journals, and that the criticisms will be made by some one competent to judge of the merits or defects of his work

In the case of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, there is, according to my opinion, more than the usual relation between subscriber and editor This journal is the official organ, in fact the mouth piece, of the AMERICAN MEDICAL ASSOCIATION In other medical publications, if the reader objects to the methods of the periodical, he simply cancels his subscription , with the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, however, the journal is part of the organization, and cancellation of the subscription is practically a resignation of membership The editor, in fact, holds his office, not through the good will of the publisher, but by the vote of the members or their representatives When, therefore, an article is submitted for publication, or a work for criticism, it is entitled, not only to the courtesy of the editor to a subscriber, but also of an officer of an association to one of its members

In the case of my work, which was sent you, I will admit that it refers to a special part of medicine, namely, of the nose, throat and ear, to which a physician devoting his time to general medicine would scarcely be expected to make a fair criticism Not only is this the case, but it refers especially to *electricity* in this department, of which even a specialist in nose and throat diseases might hesitate to venture an opinion of its merits Under the circumstances, therefore, had the JOURNAL simply given the name and title of the work, this would have answered the purpose, and it would not at least have given an erroneous impression On the other hand there are many men in Chicago who would have been able to criticise this work with credit to themselves and with justice to the author

In your criticism, the only part that refers to the work is the first paragraph "The illustrations in this book are fair, and the printing is well done The book is printed on good paper " This is as much to the point as if an artist had submitted a painting and the critic had reported that the was fair, the paint well prepared and

The other paragraph [illegible] refers [illegible]
It is simply a sarc[illegible]

any work on electro therapeutics, and which belongs to a method now out of date The reader expects not generalities, but a weighing of the good and bad points of the work which a journal undertakes to criticise

Not only is the criticism vague, but it is limited to the subject of electro therapeutics, which forms but a minor part of the work Had the critic, instead of limiting his attention to the "illustrations, printing and paper," read the work, or at least looked over the table of contents, he would have convinced himself that electro therapeutics forms but a small part of the work, a large proportion refers to the subject of electro physics, which has been reduced to as scientific a basis as any other department of physics The subject of electric illumination and transillumination is no longer one of controversy, but is now almost universally advocated Electrolysis, cataphoresis and massage, by means of electric appliances, belong more to electro surgery than to electro therapeutics, and the subject of the X rays has passed beyond its experimental stage, and is now admitted as a useful procedure in hospitals and medical colleges

The book has only recently been published, and I have thus far seen but three criticisms in addition to a number of simple notices Of the three criticisms referred to, one is in your journal, August 20, the second is in the *Journal of Eye, Ear and Throat Diseases*, Baltimore, July, 1898, and the third in the *Memphis Medical Monthly*, September, 1898 I herewith enclose a copy of the second and third criticisms, which bear on their face the evidence of a careful reading of the matter and a weighing of its merits They form a strong contrast with the vapid generalities in the official organ of the AMERICAN MEDICAL ASSOCIATION Yours very truly,

(Dictated) W SCHEPPEGRELL, M D

[Enclosures Extract from *Journal of Eye, Ear and Throat Diseases*, July, 1898 Extract from *Memphis Medical Monthly*, September, 1898]

ANSWER —This journal has not space to do more than give brief "notices" It rarely prints "reviews" The aim is to inform the reader what the contents are In this case the title was sufficiently explicit The manner in which the publisher performs his part of the book making is not a matter of indifference, but a proper subject of praise or censure Nothing was said to the detriment of Dr Scheppegrell's excellent work in our notice, which is now given the additional notice its author desires

Hospital at Fort Myer

U S GENERAL HOSPITAL, FORT MYER, VA
Aug 30, 1898

To the Editor —We have here a magnificent hospital under the command of Major and Surgeon W B Davis, U S A, whose earnest work is making this one of the finest hospitals in the country

We have about four hundred patients, and one ward containing 200 beds as yet not entirely filled This ward I believe to be the largest in the world

Most of our patients are typhoid, and every material is at the hands of the surgeon in charge with which to do his work

The charges and criticism relative to improper food and attendance is, in the case of this hospital, a falsehood, and I believe it to be so in the others, for as rapidly as possible everything is being accomplished for our sick soldiers

Respectfully, D H LAMB,
Acting Assistant Surgeon, U S A, formerly of Owosso, Mich

Is there Danger in Employment of Female Assistants by Dental Surgeons?

LA PORTE, IND, Sept 12 1898

To the Editor —Should dental surgeons employ female assistants? It would seem not if the following cases can be proven to be more than a coincidence Some years ago a dentist in our city had a young woman in his employ to assist in his surgical operations After remaining in the office several years she was married, and in due time an infant appeared upon the scene with a hare lip and cleft palate The young woman who next assumed her duties in the office remained eight years, when she became a wife, and recently gave birth to a daughter with the same horrid deformity I would like to hear from the profession if similar cases are on record

E L ANNIS, M D

PUBLIC HEALTH

Governor Tanner has appointed Dr A C Corr, of Carlinville, to the vacancy in the Illinois Board of Health He was last year President of the Illinois State Medical Society, and it is understood that he will be the next President of the Board

How to Use Millions Usefully Against Tuberculosis —The editor of the *London Practitioner* reminds his readers that some years ago a millionaire, burdened beyond most of his kind with a sense of the duties of his position and fortune, asked through a newspaper for suggestions as to the employment of his wealth in the way likely to be most beneficial to the public. For some reason or other nothing came of it If such a question were asked again, I should unhesitatingly answer that there could be no better object than the foundation of properly equipped sanatoria in this country for poor sufferers from phthisis That the public, if appealed to in the right way, would help liberally is not to be doubted The manner in which they support consumption hospitals shows that their help might be counted upon in an active crusade against the disease But the question is not one of merely philanthropic interest, it is of national importance, as it closely concerns the maintenance of the vigor of the race On this ground the co-operation of the State might well be asked In this country it is notoriously difficult to get even enlightened statesmen to attend to anything out of which party capital can not be made But even here the day is surely, if somewhat slowly, coming when ordinary legislators will be brought to recognize that the public health is the first and greatest of political questions Let us, in short, have a national crusade against a national disease

The Plague in India —It is discouraging to learn, as we do by telegraph, that after all that has been done for Bombay in the way both of curative and of preventive measures, the plague has broken out afresh in that unhappy city As yet, it is true, there is nothing alarming in the reports that have reached this country, for these speak of an increase of mortality from this source of only about 20 per cent, as compared with the figures for the corresponding weeks of last year But the distressing thing is that there should have been an increase at all, when we might so reasonably have looked for a decrease, if not even for an entire stamping out of the germs of this disease For the most recent advances in the science of bacteriology have been brought to bear by some of the most skilled European experts, on the vital problem presented by the condition of Bombay All the tried and prophylactic measures have been put into force there and the whole power of the government has been placed at the disposal of the health officers, who have been doing such valiant battle with their insidious foe, but the results show that when it has once found a congenial environment the expelling of it is very far from being an easy task Some parts of the city, it is said, have been so completely changed by the clearing away of plague infected dwellings that it would be difficult for an old residenter, in paying the place a visit after an absence of a year or two, to recognize localities with which he was, until recently, most familiarly acquainted It is to be hoped that the monsoon now prevailing will effect a cleansing both of the air and of the soil, and in any case the good fight must continue to go on It is all the more distressing to learn of this recrudescence of the disease when the reports tell that it has spread in rather a serious form to Southern India, and that in Madras the situation is complicated by an outbreak of cholera —*Sanitary Record*, Sept 5, 1898

The Plague in Central Africa —Hitherto three of the homes of Asiatic plague have been recognized, two of them in Central Asia, and the third in Southern Arabia Now, according to a correspondent of the *Medical News*, the range has been extended, for while in German East Africa, Koch found that a fourth focus of plague, a locality in which, according to the natives and missionaries, the disease has been endemic for as long as there is any tradition exists on the northern shores of Lake Victoria Nyanza in Uganda His attention was called to the fact by the recurrence in Kisiba, the most northwesterly district of German East Africa of certain suspicious cases At his request an army medical man investigated the disease directly in the infected district, and sent the specimens of a number of cases to Koch on the coast, three month's journey away The specimens were in excellent condition when they arrived, and Koch came to the absolute conclusion that genuine plague was endemic at least in this part of Central Africa From here he thinks that certain epidemics have gone down the Valley of the Nile and so invaded Europe The otherwise inexplicable epidemic of the disease at Tripoli in the seventies probably had its origin in some such way as this This plague spot is, in the progress of civilization, gradually becoming less segregated as it was Caravans often come from this district, and the English in British East Africa are engaged in building a railroad from the coast into this Victoria Nyanza district of Uganda, which will be completed in two years, and will still further add to the danger of the importation of the disease into Europe

Disinfection of Sputum —It is a serious wrong to allow the sputum of any consumptive to go undisinfected or undestroyed Destruction by fire should be the rule as far as practicable Comparatively few chemic disinfectants can be trusted to destroy the bacillus of tuberculosis in fresh sputum An abundance of experimental work has established this fact Solutions of corrosive sublimate are wholly unsuitable Milk of lime, a valuable disinfectant for some purposes, is too slow and uncertain for the disinfection of tuberculous sputum Chlorid of lime is too irritating to be kept in the vicinity of the patient Ascoli states that solutions of formaldehyde are efficient disinfectants for fresh tuberculous sputum, but its action, somewhat like that of corrosive sublimate in coagulating albuminous matter, dictates the advisability of awaiting a wider research in this direction Among the agents which may be trusted in this particular line of disinfection, the experiments of Shill and Fischer, Jaeger and others show that the phenol preparations, carbolic acid, lysol and solutol, have a special activity when applied to the destruction of the tubercle bacillus Of these, the work of Buttersack for the Imperial Board of Health of Germany indicates that lysol is distinctly superior to carbolic acid in the disinfection of tuberculous sputum, and the statement of the same investigator is supported by that of most of those who have tested it, that solutol is a still more active disinfectant than lysol For the disinfection of tuberculous sputum in spittoons, a 5 per cent. solution of carbolic acid or a 4 per cent. solution of lysol or solutol may be used The disinfecting solution should act twenty four hours before the sputum is thrown out. When no other disinfectant is available, hot lye, made from wood ashes may be used or a tablespoonful or so of washing soda may be thrown in and the vessel may then be refilled with boiling water covered and set aside to cool The same rules should be applied to the disinfection of sputum in pneumonia, influenza, and their application in chronic bronchitis is also desirable, for the reason that a tuberculuar cause remains long unrecognized in some of these cases —*The Sanitary Inspector*

The Scarification in Vaccination —The New York City Board of Health, having had occasion to revise its circular on information as to vaccin and vaccination, has dealt with the subject of the latter operation in the following terms "The part of the body to be preferred for the vaccination is at the insertion of the deltoid of either arm When the leg is vaccinated (possibly on account of the greater difficulty of keeping it quiet and clean) inflammatory complications are more frequently present and are apt to be more severe The skin at the place chosen should be made clean It is doubtful if attempts at more than simple cleanliness are of value, reports of series of cases in which one arm has been vaccinated with only ordinary attention to cleanliness and the other arm vaccinated after most rigid antiseptic measures had been carried out, indicate that no greater freedom from inflammatory complications resulted in the antiseptic arm than in the other The scarification should be made with a sterile instrument The Department of Health recommends the use of an ordinary cambric needle, because a new one may be used for each case and there is thus no possibility of the transference of an infection from one person to another When, however, the necessary precautions can be taken to render the instrument aseptic, any other sharp instrument serves as well It is of great importance that the scarified area should be not more than one eighth of an inch square, because the larger the area the greater the tendency to subsequent infection and to inflammatory complications Moreover, with the more concentrated virus at present issued by the Department of Health, a small scarification is ample for invariable success It should be noted that a vaccin vesicle enlarges peripherally, and the resulting crust always covers a considerably greater area than that originally scarified The virus should be rubbed in thoroughly and allowed to dry for at least ten minutes It is a convenience to blow the virus from the capillary tube in which it is contained on to the accompanying piece of wood and then rub the wood on the scarified area, instead of blowing the virus directly upon that area

Increasing Demands for the Sanitation of Creameries —This subject is a theme of a paper in *Public Health*, July, by Dr Lippincott of Hopkinsville, Pa , who is himself a veterinarian and a dairyman "As is customary, at such establishments, the wagoner brought the milk can filled with "slop" that is supposed to be good enough for hog feed It is generally understood on the outside that the farmer who sends his milk to the creamery gets skim milk in return, but when it comes to reality, they are only entitled to the slop out of the out wells where all refuse of the creamery is conducted This is exposed to all kinds of weather, but nothing affects these wells as does the sun and hot weather They are never cleaned out and having run into them each day skim milk, water, dirt and washings from the buildings and utensils, this mixture came home in our milk cans Imagine my surprise when the man emptied the return cans of slop, which had the foulest odor not unlike the very worst kind of a water closet or human excreta After a few returns of this kind my man refused to wash the cans, and no one could blame him *If I could present a sample to this meeting your noses would suggest that one dose would suffice* Yet the farmer continues to cart this home, and his swine are forced to drink it or starve This is not only true of our creamery, but all over the State In our experience, after washing and rewashing the cans retained the filthy odor two or three days yet the farmers fill these same cans in the evening with fresh milk for the next trip this is repeated daily, from this milk comes the butter to your table and mine I am informed that the State Board of Health is unable to remedy this evil for lack of legislation New Jersey is fully prepared to meet and correct any such matters Imagine my surprise upon receiving from Dr Lee, the secretary of the State Board of Health, a reply to my suggestion that an inspector be sent, that this great Commonwealth has no such inspector If Dr Pitfield is looking for a fertile soil for bacteria, a visit to one of these blind wells on a hot day would show him all he needs I engaged the attention of the proprietor, pointing out the facts and the easy means of correction, but I am met by the remark it is time enough when such becomes a aw They can easily be kept clean at little expense by having an outlet making such a flush well in a place of a stagnant pool "

Preventive Measures Against Tuberculosis at New York City —Dr Herman M Briggs gives in the *London Practitioner*, June, the latest account of the results in New York consequent upon health board measures for the restriction of pulmonary phthisis He divides the efforts of the Department of Health under the three heads of notification, education and other preventive measures While still far from complete, especially among that class under the care of private physicians, the notification of cases of tuberculosis shows a marked and continuous increase Thus, during 1894, the year in which registration was begun, 278 cases were reported by physicians and 3985 by institutions, while in 1897 1919 cases were reported by physicians and 7653 cases by institutions—9572 cases altogether Another evidence of increasing confidence on the part of the profession in the attitude of the Department of Health with regard to the control of this disease is afforded by the increase in the number of specimens of sputum sent in for examination, each specimen which contains tubercle bacilli representing, as it does, a report of a case These specimens have increased from 511 in 1894 to 2703 in 1897, while during the four years since the work was begun, a total of 6897 specimens has been examined The educational influence and value of the measures adopted by the Department have been marked The inspectors report a most gratifying increase of intelligence among the better class of the tenement house population with regard to the true nature of the disease and the usual method of its transmission to others They find in many instances on their first visits to consumptives that efficient means have been taken to properly care for the sputum, through the use of rags (which are afterward burned) in place of handkerchiefs, or of cups containing water or some disinfectant, etc Another evidence of the increase of popular intelligence is found in the requests from citizens, now received by the Department almost daily, for the disinfection of infected clothing, etc, and for the inspection of premises occupied by consumptives Where the premises occupied by consumptives are vacated by death or removal and are, in the judgment of the inspectors, probably infected, recommendations for their renovation are made to the Board of Health, and on the basis of the recommendations, orders are issued by the Department on the owners of the premises, requiring such renovation It will be observed that *renovation* —not disinfection—is required This involves the application of simple, and in tenement houses, inexpensive measures, i e, scrubbing painted woodwork and floors with a hot soda solution and repainting, repapering or rekalsomining the walls These measures are certainly efficient in ridding an apartment of tubercular infection (while efficient disinfection in such apartments is difficult or impossible), and at the same time they are easily understood, leave the premises in an improved condition, and as a consequence are cheerfully acquiesced in by the tenants, and are promptly carried out in almost every instance by the owners of the buildings Where the consent of the owners can be obtained (and there is but little difficulty in this), infected bedding, clothing, carpets, etc., are removed by the Department, on the recommendation of the inspectors, to the disinfecting station and disinfected by steam or destroyed at the option of the owner, without expense to him

Bubonic Plague Spreading —Advices from Simla, dated August 29, announce that there were 2300 deaths last week in the Bombay Presidency The epidemic is spreading and there has been a fresh outbreak in the Province of Hyderabad

Consumption Among the Negroes —Dr James Evans of Florence, S C, writes that the susceptibility of the colored race to phthisis, and its extreme fatality among them, has made a deep impression on every observant physician in the South, and the subject is invested with peculiar interest as the excessive mortality has overtaken the race since emancipation, showing that the disease is more prevalent now than it was during the period of slavery In investigating this phase of the subject several years ago, I made inquiries among the rice planters dwelling on the coast, who were the owners of a much larger number of slaves than elsewhere in South Carolina, as to the frequency and mortality of consumption among their slaves The result of this inquiry was that phthisis in any of its forms was an exceedingly rare affection among negroes on the plantations Many of these planters had no recollection of seeing a plantation slave affected with the disease, and it was even seldom seen in those who visited in the towns and cities where they were more exposed to the infection The negro engaged in the cultivation of rice is employed for a large part of his time during the winter months in repairing the dykes and cleaning and digging ditches, and the consequent exposure in the performance of this work often gives rise to the acute forms of pneumonia and bronchitis Yet they were singularly exempt from consumption The slave represented so much invested capital, and was warmly clad, well fed, comfortably housed, and when sick had the best medical attention Consequently the mortality among them did not exceed that of white men The death rate in Charleston in 1860, of the negro, was exactly that of the white man, 12 per 1000 In 1895 it was 29 10 colored, 18 70 white, per 1000 A comparison of the phthisis death rate in the city of Charleston among whites and colored in decimal periods from 1865 to 1895 inclusive, reveals some startling facts The deaths from consumption, in the period from 1865 to 1895, were as follows In 1865, whites, 26, colored, 74, in 1875, whites, 54, colored, 132, in 1885, whites, 57, colored, 209, in 1895, whites, 39, colored, 194 Total deaths in 31 years—whites, 1525, colored, 4975 Estimated population in 1895 whites, 28,870, colored, 36,295 The police regulations in force on most plantations did not permit the slaves to visit adjoining places without a permit, and they usually retired early at night and arose at an early hour next morning As soon as emancipation occurred, there was an exodus of the negroes from the rural districts to the small towns and cities, where they congregated in large numbers, and there was overcrowding in every place that could afford the least shelter And even now, on farms remote from the towns, they evince the same tendency of overcrowding their little cabins with more people than they can possibly accommodate with comfort or safety There is no disease which claims as many victims among the negroes as consumption And the prime cause of this excessive mortality is room density, too many living in the same room —*Bulletin of the Ohio State Board of Health*, June

NECROLOGY

Thomas Sexton Robertson, M D, University of Vermont, 1879, of New York City, died at his home September 7, aged 44 years Born in Glasgow, Scotland, he took a medical course in London, and after graduation in this country, began practice in New York as a specialist in nervous and mental diseases

W S McNairy, M D, a graduate of medicine of the University of Pennsylvania, died in his 82d year in Washington, D C, September 3 He was forty six years a government clerk in the U S Naval Department, and continued at his desk until within a week of his death

John L Neilson, M D, Medical College of Ohio, 1866, died suddenly in Boston, Mass, September 1, in his 54th year He served twenty nine years in the Medical Corps of the U. S. Navy, was a member of its examining board and at the time of death was a medical inspector at the Charleston navy yard.

Major **George McCreary**, surgeon, United States Army, who died August 23 on the *Catania* en route from Santiago to Camp Wikoff, from dysentery, following yellow fever, and who was buried at sea, was a native of New York. He entered the army as an assistant surgeon, with the rank of captain, on Feb. 17, 1880. He reached the grade of surgeon with the rank of major last year and accompanied the army to Santiago de Cuba, where he rendered excellent service until he was stricken down with the disease which resulted in his death.

Levi J. Rice, M. D., of Hillsdale, Mich., August 31, aged 94.——Fred A. Harpold, M. D., of Lower Salem, Ohio, August 31.——L. K. Garfield, M. D., of Algona, Iowa, September 2, aged 78.——Franklin Burr, M. D., formerly of Buffalo, at Greeley, Colo., September 1.——C. J. Covey, M. D., of Grand Ledge, Mich., September 1, aged 73.——W. V. Camp, M. D., of Hoxie, Ark., August 30.——C. B. Carneth, M. D., of West Superior, Wis., September 2.——A. J. Coward, M. D., of Clinton, Tenn., September 7.——Robert Jordan, M. D., of Jordan Springs, Va. September 4, aged 75.

MISCELLANY

Habitual Luxation of Lower Radio Ulnar Articulation.—This produces much functional disturbance, which is often ascribed to every cause but the right one. Hoffa has treated three cases by fastening the two bones together with three deep sutures embracing the periosteum of each, thus affording a firm support to the head of the ulna. The functional results were perfect in less than three weeks.—*Cbl. f. Chir.*, July 2.

The Zambaco Prize.—Zambaco Pasha of Constantinople has endowed the French Société de Derm. et de Syph., with funds for a biennial prize of 900 francs, to be awarded first in 1900 for the best article in French on the Contagiousness of Syphilis at All Stages of the Disease. Communications must be sent in to the secretary, Dr. Hallopeau, Boulevard Malesherbes, 91, Paris, France, before November 30, 1899.

Nude Out of door Life in Therapeutics.—An editorial in the *Gazette Méd. de Paris* of August 13, describes a sanitarium at Veldes in Austria, in which the patients—mostly neurotic subjects—live in shelters open to the air and discard all clothing except a pair of bathing trunks and a straw hat. They dine and lounge on rugs spread on the green sward, after games and exercises that recall the South Sea Islanders. A physician is connected with the establishment, appointed by the Austrian Government, and no undue license is allowed. The sexes are treated in separate quarters. This retreat is reached from Innsprück in the Tyrol, via Toblach and Villach in the Oberkrain.

Paresthetic Meralgia.—The *Revista Méd. de Chile* for February, contains the observation of three cases that confirm Roth's recent description of this affection. After walking or fatiguing the legs even slightly, the external muscles are the seat of strange sensations of heat and cold, amounting to actual pain. Hairless patches are also to be distinguished in the region, with normal sensibility, "smooth as parchment" (Roth.) No benefit was derived from any treatment. According to Roth's experience diabetes or tabes invariably followed in the course of a few years. In the new cases there were diabetic or neurasthenic family antecedents and one case had an inextinguishable thirst that suggested diabetes.

Direct Bronchoscopy.—Prof. G. Killian of Freiburg announced at the recent South German Congress of Laryngology, that he has succeeded in visually inspecting the bronchi below the bifurcation. The bronchi, he finds, are much more flexible than usually supposed. After cocain anesthesia he introduces a stiff tube into the bronchus, which straightens it until he can inspect it with the eye and examine even into the branches. The subject does not find the experience particularly disagreeable. He sits erect, the head thrown back and to the left, while he breathes easily through the tube, the observer standing on the right. Killian has tested it until he has established its entire harmlessness. For a man he uses a tube 9 m. m. in diameter. Once past the throat, the tube slides down by its own weight.—*Munich Med. Woch.*, July 5.

Electric Treatment of Epithelial Cancers.—Fabre Domergue asserts that the orientation of the epithelial elements determines the character of the tissue; with a centrifugal orientation the elements develop with a continuous exfoliation of the horny layer and renewing of the rete mucosum, without any tendency to break through the basement membrane, while centripetal orientation is abnormal and leads to partial or total infiltration of the tissues below the basement membrane. He suggests that we utilize the property possessed by the electric current of turning certain unicellular organisms until their long axes parallel the direction of the current. Galeotti has also recently established that cellular division in the epidermic elements of the salamander is affected by the electric current. "It may be possible to restore the disorganized cells of epithelial cancers to their normal centrifugal orientation and arrest the growth of the neoplasm."—*Bull. de l'Acad. de Méd.*, June 28.

In Honor of Berzelius, the Swedish Savant.—A great memorial fête will be held in Stockholm, October 7 next, on the occasion of the fiftieth anniversary of the death of the savant Berzélius. Every scientific society in Europe will be represented, it is expected. In 1819 Berzélius was the guest of the City of Paris. He was an intimate of Laplace, Berthollet, Gay Lussac, Ampère, Arago, whom he visited in Arcueil when every Sunday they met and sat under the trees and discussed the scientific questions of the day. Three years later Berzélius was made a member of the Institut de France, but he found the ceremonious display there less amusing than the little gatherings at Arcueil, and he was seldom seen at the Institut. Berzélius, who was born in East Gothland, Sweden, in 1779, studied chemistry and medicine at the University of Upsal. His most important work is "Larebok i Kemien" ("System of Chemistry"), in three volumes, which has been translated into every European language. He was Professor of Medicine and Pharmacy at Stockholm from 1807 till 1832.—*N. Y. Times.*

Bones can be Introduced for Inspection of Experts.—In a malpractice case where negligence was charged in the treatment of a broken leg, causing gangrene to set in, and requiring an amputation of the leg, the court of appeals of Kentucky holds, Williams vs. Nally, that it was not improper to allow the bones of the fractured leg to be introduced for the inspection of the experts. It also maintains that the testimony of those not professing to be experts with respect to the actual condition of the leg was competent, because they spoke only of what they saw and knew, expressing no opinions. Nor does it think that it was improper to allow counsel for the plaintiff to incorporate into some of his questions quotations from medical works, as part of his questions, when catechising experts as to their technical knowledge. Finding no reversible error it affirms a judgment for $750, against the physician, who, by the way, was sent by a justice of the peace to attend the case under instructions to give his patient all necessary attention but not to run the county to unnecessary expense.

Estate Liable for Support of Lunatic.—The supreme court of Tennessee says in the case of McNairy County vs. McCoin, an action brought to recover payment for the board and maintenance of a lunatic admitted to a county asylum for the pre-that the duty imposed by the common law upon the guardian to maintain and support his ward is no less obligatory than that imposed upon the husband to support his wife, and if the guardian, with means of the ward at his disposal, breaches his duty, and permits his ward to become a charge upon the county, it should be reimbursed for expenses incurred in supplying necessaries to said ward It is true, the county asylum established under the laws of Tennessee is a charitable institution Still, it was designed for the care and maintenance of indigent paupers, and not for the benefit of those who have means sufficient to support themselves If, therefore, it appears that the county, through the neglect of the guardian, has been compelled to provide for one who was not a pauper, it would seem but just that the county should be indemnified out of the funds belonging to the ward, as the court holds, and to this effect, it says, is the great weight of authority, a contrary view of the supreme court of Indiana being pronounced out of line with the current of authority, and but the decision of a divided court

The Neuron Theory Tottering—Franz Nissl publishes in the *Munich Med Woch* of August 2, 9 and 16, an account of his recent investigations in regard to the nerve cell and gray matter He has established a number of important facts which undermine the neuron theory and demonstrate that the nerve tissue consists of nerve cells and a specific nervous substance, (the gray matter), a fibrillary substance, originating in the nerve cell protoplasm It evidently represents the highest stage of differentiation in the animal organism and is an especial functional factor in the mechanism of the nervous system, the functionating element, while the nerve cell is the forming and nutrient element from which the other is developed It is interesting to note in his cuts how this functionating element predominates in man—the higher the development of the mammal, the less nerve cells there are in corresponding perpendicular sections of the cortex Among the facts on which he bases these assertions are the discoveries of Apáthy and Bethe of a co ordinated reflex in an invertebrate (carcinus mænos), without any central nerve cell, also that this reflex rapidly subsides, having no continuing power Further, his and others' demonstration of fibrils in the unstainable portions of the cell body show that these primary fibrils undoubtedly constitute the conducting element Another fact is the classic lack of proportion between the alterations in the nerve cell after intoxication or other injury and the functional disturbances, the cell may return to a perfectly normal condition, while the function is still lost His own research has been principally in the line of the effect of various poisons on the nerve cell He finds that each poison affects the nerve cell of the cortex in a special, almost a specific, manner (except in case of very slow, gradual intoxication), and that the alterations produced are chemic or physical or both, and are primarily merely the expression of the disturbances produced by the toxin or other injury in the material equilibrium of the nerve cell

Heart Disease from the Standpoint of Life Insurance—Dr Robert H Babcock, *Medicine* Vol iv, p 177, *American Medico Surgical Bulletin*, in discussing the attitude of the companies toward their examiners as one of distrust regarding the liability of reports accurate enough for a basis of expectancy, says that tachycardia of 90 or 100 is often due to the perturbation of an examination, the use of tea, coffee or tobacco, and may hap the naturalness of some individuals A cardiac murmur is the least important, its intensity is no criterion of its gravity, on the other hand, a dangerous lesion may declare no murmur at all Robust men of large frame, ample chests, eaters of meat thrice daily, who take comparatively little out-door exercise, with the handicap of active mentality or great responsibilities, are the risks which die unexpectedly in the fifties or early sixties An examination of the heart in these cases may reveal an absolute dullness usually normal, while deep percussion may prove an increase of relative dullness sufficient to constitute cardiac enlargement Dwelling upon some of the conditions which should determine one's opinion of the likelihood of an applicant with a compensated mitral insufficiency or aortic stenosis living out his expectancy, the writer regards the tendency to recurring attacks of articular rheumatism, or a gonorrhea, or some other infectious disease present, and liable to set up fresh endocarditis as of unfavorable prognosis Age also influences the prognosis, as if the person be beyond middle age it is probably of sclerotic origin and progressive The occupation is of utmost importance, since, if it subject the individual to vicissitudes of weather, or to cardiac strain from undue exercise or physical tax, compensation is not likely to be long maintained

Obscure Sources of Poisoning—Dr Clement Dukes, physician to Rugby School, refers to two cases of the above nature The first of these was an adult male having the symptoms of plumbism The patient was a gardener, and the physician minutely searched every possible source of poisoning in his house without discovering the cause Failing in this, inquiry was made into his habits from rising to retiring, and the cause was traced to this he breakfasted early, went to work, and between 8 and 9 A M visited a certain ale house to have a glass of beer, where he was usually the first customer As the beer was drawn by the beer pump from the barrel in the cellar through a lead pipe he evidently imbibed with his, often probably hard, beer his daily dose of lead This visit was at once given up, he recovered from his poisoning, which has never recurred, and he now allows some one else to have the first glass A few weeks ago a young woman, who evidently had something on her mind and was suffering considerably, which apparently arose from morphism, called to consult Dr Dukes After considerable patient inquiry the following facts were elicited Some years since she had suffered from a painful rectal trouble for which morphia suppositories had been prescribed, which not only relieved her local pain but doubtless produced other general peaceful effects Feeling very wretched from too long a ride on her bicycle, which made her quite ill, she remembered her suppositories and resumed them, using several daily for a considerable time, with the result I have stated —London *Lancet*, April 2

County has no Right to Discharge Physician Without Cause—The first of several questions deemed important enough to be specially certified up to the supreme court of Texas, in the case of Galveston County vs Ducie, was as to whether the commissioners' court had authority to appoint a county physician, at a stated salary, to perform duties comprising the giving of medical attention to the prisoners at the jail, both the criminals and the pauper insane and county paupers at the poor farm and any one sick within the jurisdiction of the county, confined as a prisoner pauper, or lunatic, and to attend inquests whenever anybody was found dead The answer of the supreme court, handed down May 9, 1898, is that the commissioners' court of Galveston county was authorized to make the contract for medical services to be rendered to paupers and prisoners for whose care and support the county was required to provide, but that it had no authority to make the contract for the physician's services at inquests, and that to that extent the contract made was not binding upon the county The explanation of this is that counties are not liable for the services of medical men at inquests which may be held under the provisions of the Texas Code of Criminal Procedure Yet, as already suggested, the court holds that, although the stipulation in the contract for the physician's services at inquests was ultra vires, or beyond the power of the commissioners' court to contract, it did not render the agreement invalid for that part which the county had the power to con tract for. And it insists that, so far as the commissioners' court had authority to make the contract referred to, the county was bound to the same extent an individual would have been, and it had no right to discharge the physician without cause. If wrongfully discharged, he would be entitled to recover the amount contracted to be paid him, less so much as attendance upon all inquests in the county would be reasonably worth, and less any additional sum the evidence might show that he could make in the practice of his profession by being relieved of attending to the county cases. But the contract in question, not contemplating that the services to be rendered for the county would occupy all of the physician's time, but that he might give what spare time he had to private practice, the court holds that, when wrongfully discharged he would not be obliged to seek other employment, to reduce the damages against the county, because that would not be consistent with his regular business, some weight also being attached to the fact that it did not appear that there was any other business of like character in which he could have obtained employment.

Practice of Medicine by Clergymen.—The *Lancet* states that the Roman Catholic bishop of Augsburg has recently made a communication to the clergymen of his diocese on the subject of the increasing tendency of the clergy to give advice in cases requiring medical treatment, a practice which he condemns as being at variance with the ordinances of the church, and he charges his clergy to avoid anything which may have the appearance of interfering with the work of the medical profession. This order is the more remarkable because Woerishoffen, where the late Father Kneipp lived and his successors still continue his work, is in this diocese. The expression of similar views by other clerical dignitaries would no doubt have a beneficial influence as tending to prevent misunderstandings between the two professions. That quackery has its most fervent adherents among the upper classes was clearly shown by a recent occurrence. One of the leading newspapers of Berlin published a letter written by a medical man showing that a so called "magnetopath" had pretended to cure patients by means of magnetic fluid coming from a well known Berlin medium now resident in America. This medium had formerly caused a certain amount of sensation in connection with spiritualist meetings, but eventually left the city when it was shown by some medical men that she had been carrying on a system of imposture. A few days after the insertion of this letter a public declaration appeared in the advertising columns of the leading Berlin journals, signed by a great number of patients of the quack. The signatures were for the most part those of members of the nobility and of the upper classes, who solemnly stated that they had been cured by this man after having been attended without success by legally qualified medical practitioners. The great popularity of every kind of quack treatment among the upper classes leaves little ground for hope that unqualified practice will be made illegal.

Leprosy in Hawaii.—A pamphlet on this subject has been published by Dr. Ashburton Thompson. He quite fully considers the question of imported labor from leprosy areas, but finds little evidence in support of the theory that the disease was introduced in that way. The first reliable observations on the occurrence of leprosy in Hawaii were made between 1855 and 1863, but the rate of its diffusion is very uncertain. Dr. Thompson remarks: "All competent witnesses hold the following opinion—that there is no record or distinct tradition of the invasion of the disease. When attention was first attracted to it cases existed in every island of the group; it is not known or suggested either that any island was attacked before the rest, or that any remained free after the rest were known to suffer." It is thought at the present date by those at Honolulu, who are in the best position to judge, that the outbreak is now declining. The evidence that this is so is not as yet such as can be easily apprehended by the foreign visitor, and it is the case that during the last thirty years a similar opinion has been expressed, from time to time, only to be contradicted a little later by acknowledged facts. Great difficulties have been experienced in carrying out a policy of isolation. In 1865 the necessary land was acquired, which thenceforward become known as the Settlement, but for many years constant communication was carried on between the lepers and their friends on the other islands. Consequently, the author says, no account of the fluctuations of this endemic can be written; all that can be furnished is a statement of the number of persons annually removed to the Settlement, and this is given for the term of years from 1866 to 1895, in a table. But these numbers stand in no known relation to the total affected in the whole group, and fluctuate largely, if not exclusively, in correspondence with terms of greater or less executive energy, and are hence of little scientific value. In fact, as Dr. Thompson himself observes, the value to etiology of the present case must be classed scientifically as "unobserved," as no records were kept of the original inhabitants of the islands who became lepers, but the vast majority of cases were observed in those families whose ancestors had been imported into the islands.

An Emergency Call Requited by Prosecution and Fine.—Dr. Leichtentritt, a practitioner of Berlin, has had a very disagreeable personal experience, the details of which he has published in the *Aerztliche Sachverstandigen Zeitung* for the benefit of his professional brethren. Dr. Leichtentritt when on his way home and near his residence, one evening, was asked by a policeman to see a woman who was giving birth to a child, in a water closet. He did so, and found that the woman had just been delivered of a girl, the placenta being still in the uterus. A crowd of women was present to watch the proceedings and to give advice to the patient. The surroundings not being the most suitable for obstetric manipulations, Dr. Leichtentritt only tied the umbilical cord and ordered that the woman, whose name and address he did not ask for, should be conveyed by the policeman to the nearest hospital for the removal of the placenta. He then went away, feeling inwardly content with the charitable act which he had performed under such strange conditions. Some weeks afterward the woman called on him to ask whether he had notified the birth of the child to the registrar. She told him that she wished the child to be baptized, and according to law it was necessary for the clergymen to see the certificate of the registration of birth. Dr. Leichtentritt said that he had not notified the birth and explained to the woman that it was the duty of the hospital officials to do so. Not long afterward he was officially summoned before the registrar, who drew up a long report of the case, and his troubles were supposed to be at an end, but to his great disappointment he received an order from the magistrate to pay a fine for infringement of the registration laws. Dr. Leichtentritt refused to pay, not feeling that he had committed any offence, and rightly believing that he did not deserve to be fined for help freely given to a poor woman. Legal proceedings were taken against him, but judgment was given in his favor on the singular ground that he had not been "present" at the delivery, as the child was already born when he arrived on the scene. The law is to the effect that medical men or midwives or other people "present" at the birth of a child are bound to notify the birth to the registrar, but it was not applicable to the present case. In future Dr. Leichtentritt and some other medical men will probably be less ready to respond to appeals for their assistance.

The Profession and the Interviewer.—The *Scalpel* reprobates the action of certain practitioners in supplying the press with bulletins and interviews regarding the sickness of the great and as an example instances the fact that day by day the press described the progress of Mr Gladstone's illness, day by day with ghoul like eagerness the press detailed the varying phases of his malady, and Mr Gladstone literally was killed by inches What useful purpose could be served by such details?—save the selling of a few extra copies, and the making of a few extra half pennies Still worse, in our opinion, are the reported interviews as to the exact nature and progress of the patient's illness, how he consulted Dr So and So, how he actually saw Dr Carter of Liverpool, how he then went under care of Dr Blank and Dr Blank If such interviews and such actions are sanctioned in high places, why should not Dr Minimus give the reporter details of the illness of the local great man and advertise himself There is only a difference in degree In each locality the big man of the place is as important to the place as Gladstone was to the larger circle Bulletins are, however, condemned in the case of the smaller man But the question resolves itself into a small compass It is not a question of the high or low position of the patient The medical attendant is consulted in a confidential capacity, he has no right to let the public into his confidence He should say to all reporters and interviews—"I have told the relatives my opinion of the case, if you want any information you must go to the relatives I can not enter into details which I obtained in my professional capacity." We have seen in some of our illustrated journals ghastly pictures of the death chamber of Mr Gladstone The Ex Premier is almost at his end, his wife holds his hand and his family are round his bed This picture has no merit from an artistic point of view, and it certainly appears to us to be in the worst possible taste The inner life of our great men may sometimes be legitimately peered into, but certainly their death chambers should not be invaded—a veil should be hung over this last solemn act We trust that the College of Surgeons and Physicans or some other official body will in some way express an opinion in general terms upon the proper attitude of medical men when attending distinguished patients

Prior Removal of Ovaries Ground for Annulling Marriage —The exceedingly novel and important question was raised in the case of Wendel vs Wendel, whether the husband is entitled to the annulment of a marriage contracted without knowledge on his part that his wife was physically incapable of conception as the result of a surgical operation, such as the removal of her ovaries, known to her, but concealed from him Section 1743 of the New York code of civil procedure provides that an action may be maintained to procure a judgment declaring a marriage contract void, and annulling the marriage, among other causes existing at the time of marriage, where one of the parties was physically incapable of entering into the marriage state In deciding the question presented, under this provision, Mr Justice Hirschberg of the special term of the supreme court of New York, Kings County, follows, in part, this line of reasoning Was the defendant wife, at the time of the marriage, physically incapable of entering into the marriage state, within the meaning of this statute? The answer depends in great measure upon what are recognized by law as the objects and purposes of marriage If sexual intercourse alone is so recognized, then it must be conceded that the defendant in this case was physically capable But the creation of a family is also regarded as one of the chief purposes of a matrimonial union, and it is difficult to see how an individual can be physically capable of performing the contract who has lost the organs essential to conception The question is different from that presented by sterility or barrenness It is well settled that a marriage will not be annulled for the mere barrenness of the wife Not only is such a condition and its continuance difficult, if not impossible, to prove, but its existence, if established, may not be innate, but only peculiar to an inharmonious combination In such cases, whether the power to conceive or to impregnate be at issue, the question of the condition and its permanence rests on hypothesis and speculation, and is practically beyond the pale of judicial scrutiny Impotence in such cases is the sole and settled ground of nullity Continuing, the judge says that it seems to him that the question is vitally distinct where the barrenness is absolute, is not a constitutional quality or a functional failure, but a physical incapacity, resulting from congenital malformation or the total loss of the organs of conception by disease or the surgeon's knife So he holds, December, 1897, that a person destitute of child bearing organs is physically incapable of the chief and higher purpose of matrimony, and consequently of entering the marriage state And it follows, he holds, that in concealing from the husband the fact and extent of her misfortune, the defendant in this case procured his consent to marry her by fraud, which constituted a good ground for divorce But had the plaintiff married her with knowledge that the surgical operation performed on her involved the removal of her ovaries he would, of course, be estopped from action because of her physical condition The fact that in this case the prospective husband had asked whether she was physically and mentally capable of being a wife, and that the judge says that good faith required that she should have then disclosed the fact that the surgical operation involved the removal of the ovaries, perhaps casts some doubt on whether the judge would have decided as to the fraud and divorce therefor, as he did, though his reasoning set forth would seem to have required it, had not the inquiry been made of her

San Francisco

Now that the war is so nearly over, and that the proper thing to do is to seek for "who is to blame," it would perhaps not be be amiss if some inquiry were set on foot in the effort to establish the blame for the many instances of alleged mismanagement in the camps in and about San Francisco When the volunteer regiments gathered at this point a few of the companies were camped at the Government Post called the Presidio, but afterward most of these and all subsequent arrivals were encamped on the other side of the city, in some sand lots which have heretofore been given up to the trade wind and the fog Of sewer facilities there were none, and of water there was a very meager supply in this new location, called Camp Merritt On account of the cold winds and the heavy fogs almost constantly prevailing, that section of the city had been but little built up Here the men were camped and here they built their privies, just about *fifty feet from* the camp kitchens, at the end of a month the stench from the combination of kitchen and privy was painfully evident to passengers on the cars which pass that side of the camp and perhaps a hundred feet from the camp limits Who permitted the locating of the privies so near to the camp kitchens? And who indeed, was responsible for locating the camp in these wind swept and foggy sand lots, where water is scarce and sewers there are none? Who supplied musty straw for the bedding, with the result that there was an epidemic of otitis media from micro organisms infecting the straw, which resulted in several deaths from mastoid disease and meningitis? Who is responsible for supplying the zoölogic collections called bacon, which sometimes have been issued to them for rations? These and a few more questions might well be asked, in view of the very high death rate and the large sick list It was rumored that the Southern Pacific, which corporation controls all the street car lines running out to Camp Merrit, was largely instrumental in having the camp located in the sand lots, for it has no car lines running to the Presidio, and its rivals have no lines giving service in the vicinity of Camp Merrit This rumor was denied, but that is but what one could expect, and in view of the weight which political pull and corporation influence seems to have, the denial means nothing At present there are about three hundred and fifty men on the sick list among the troops which were recently removed to the Presidio from Camp Merrit, and the death rate is not what one could conscientiously call small When investigations are being urged with greater emphasis from day to day, why not look into some of these things which, in view of the results, may be called outrageous blunders?

IT IS STATED, on good authority, that the joint committee of the Board of Regents and the Faculty of the Medical Department of the University of the State of California have in contemplation a plan for making the medical department one of the leading medical schools of the country They have entered into correspondence with Johns Hopkins, to ascertain the data of the plan of operating that famous school, and the necessary expense of conducting a school on very similar lines Certainly the plans as outlined by a member of the joint committee will, if carried out, put the medical department of the university in a place second to none in this country A medical library that will be a library in the fullest sense of the word, is already decided upon and will have been commenced by the time the new buildings are in use Through the instrumentality of Dr Philip King Brown and the generosity of the widow of the late Dr Richard John Hall, almost the entire library collected by Dr Hall is to be given to the university for the use of and to be placed in the building of the medical department This library includes a large number of complete files of medical journals American, English French and German, and is of considerable value Other notable accessions are in view and it is to be anticipated that before the first of the coming year there will be at least five thousand volumes in the library A large and excellently adapted room has been set aside for this purpose and the shelving is now being made

Philadelphia

Six Hundred Soldiers lie ill in the hospitals of Philadelphia And yet this large number of sick represent but a proportion of the total number now being treated elsewhere

Philadelphia Mortality Report —The number of deaths for the week ending at noon, September 10, was 537 an increase of 124 over the previous week, and of 148 over the corresponding period of last year Of the total number 172 were in children under the age of 5 years, cholera infantum being very prevalent owing to the excessive he The principal causes of death were Apoplexy 18, dysentery cancer 16, diarrhea 3, inanition 10, cholera infantum 50, marasmus 25, consumption 57, old age 25, heart disease 41, suicide 8, uremia 15 Infectious diseases Diphtheria 64 cases, 10 deaths, scarlet fever 12 cases, 1 death, typhoid fever 222 cases, 28 deaths Total 298 cases, 39 deaths, a decrease of 47 cases and 14 deaths from preceding week

September Has Been Hot in Philadelphia —Physicians who have remained in the city during the summer will not forget the past few months for years to come While the weather man stated some time ago *that it had been the hottest for* thirty years, it was a source of much pleasure to feel that the hottest was over after the first of September had been passed But on the 5th inst a temperature of 91 was reached with the humidity at 83 per cent ending in 6, deaths and 20 prostrations On the 6th there were 6 deaths and 18 prostrations On the 7th 4 deaths occurred Since August 31 there have been 41 deaths attributed to the intense heat

Quarantine Station in Philadelphia Can Be Quickly Established —Owing to yellow fever scare now prevalent along the Gulf States the State Quarantine Board of Pennsylvania has become quite active of late and is preparing itself for emergencies which may arise It was recently announced by Dr Henry C Boenning that complete arrangements had been made by the Board of Quarantine whereby the station at Marcus Hook could be provisioned and equipped for 200 persons, within six hours if the emergency arose The Hon John Wanamaker offered to equip the station with bedding, tableware, etc , also cooking ranges Prompt delivery of 100 to 1000 pounds of meat has also been provided for

Contributions for Relief of Sick Soldiers —Mr George C Thomas, treasurer of the National Relief Commission, acknowledges the following contributions received at the banking house of Drexel & Co , Philadelphia Cash previously acknowledged, $56,178 56 , amount cash to date, $621 16 , total, $56,799 66 The St Agnes Hospital acknowledges receipt of $1048, and the Medico Chirurgical Hospital $3580 50 for the relief of the sick soldiers Contributions have also been received by all of the hospitals of the city

Hospital Trains Sent Out from Philadelphia —The following number of hospital trains have been sent to the different army camps by the various hospitals of this city University of Pennsylvania, five , Medico Chirurgical Hospital, five , St Agnes Hospital, one , St Joseph's Hospital one The German Hospital is in communication at the present time with the Surgeon General in regard to dispatching a train for a similar purpose Of the soldiers brought home, about eight deaths have occurred from typhoid fever Dysentery, diarrhea and malarial fever account for the illness of a large proportion of the troops, many of whom have been discharged cured

Avoiding Vaccination in Philadelphia —Dr Ott of the 29th sectional school board questions the genuineness of many vaccination certificates filed at the district school by pupils attending Believing that many papers were irregular, Dr Ott visited the school to make an examination of the scars upon the children, but in many instances refusal was encountered on the ground that the parents objected A resolution however, was passed by the board that the principals of the schools be instructed to make the examination, and also to compare the certificate with that of an accepted medical register

Personal Mention —Dr Ernest Sangree, formerly pathologist to the Philadelphia Hospital, but late professor of pathology and bacteriology in the Vanderbilt University, has returned from a trip to Europe via Philadelphia

Bequest to Charity —By the will of the late Harriet B Evans of this city, a bequest of $5000 has been made to the Presbyterian Hospital as an endowment for a bed in memory of her husband

Washington

Health of the District —The report of Health Officer Woodward for the week ending September 3, shows the total number of deaths to have been 109, of which 58 were white and 51 colored Among the principal causes of death are noted, circulatory, 11 , intestinal, 7 , genito urinary, 3 , respiratory, 9 There were 25 fatal cases of the zymotic class, 7 of which were from inflammation of the bowels, 2 from diphtheria and 8 from typhoid , 3 of the latter cases were soldiers in the Army Barracks There were 43 cases of diphtheria and 39 cases of scarlet fever under treatment at the close of the week

Drs Albert R Collins and F F Repetti have been appointed physicians to the poor

Woman's Clinic —The regular monthly meeting of the Board of Directors of the Woman's Clinic was held on the 3rd instant at the hospital , important business was transacted and the hospital shown to be in a flourishing condition

Associated Charities —The regular monthly report of the Board of Associated Charities shows a marked diminution in the number of applications for help and medical treatment The number of applications for free treatment made to the Central Dispensary and Emergency Hospital was 147 , of this number 109 were granted, 26 were refused and 12 were found to have given false addresses The hospital authorities are very much pleased by the fact that certificates were granted to only 74 per cent of applicants, thus relieving the hospital from the care of about 26 per cent of applicants who would have otherwise imposed upon the institution Ten applicants for treatment at the Woman's Clinic were investigated, 3 of whom were rejected

No More Nurses Required —The following communication was sent to the D A R Corps by General Sternberg

Dr Anita Newcome McGee, director D A R Hospital Corps, Dear Madam —I desire to express to you and to the members of your committee my high appreciation of the valuable assist ance rendered me in the selection of trained female nurses for duty at our general and field hospitals The results have been entirely satisfactory, and I have received most favorable reports with reference to the value of the services of the trained nurses selected through you The demand for nurses is probably about over and in my opinion you could now discontinue your labors in this direction without injury to the service I will therefore make other arrangements for the selection of female nurses, if more should be required, in order that you may be relieved from the arduous labors which have occupied your time so completely during the past four months I desire to express my sincere thanks to you and to each member of your committee, for your patriotic and unremitting efforts, and for your valuable assistance in enabling me to provide for the care of our sick soldiers Very truly yours,

George M Sternberg, Surgeon General U S A

District Surgeons Return —Surgeon and Major R A Pyles, and Assistant Surgeon J H Cox returned to Washington today with the District of Columbia Regiment from Camp Wikoff Both surgeons show the effect of hardship and overwork, but have stuck to their regiment faithfully ever since they left Washington They were warmly welcomed in parade by thousands of friends and admirers Assistant Surgeon Weaver returned some time ago, but has been very ill and confined to bed At one time grave doubts were entertained for his recovery

Detroit

Wayne County Medical Society —The regular meeting of this Society was held on Thursday evening, September 8 Dr David Inglis read a paper on "Dietetic Points" The essayist's first point was what he called the very common and very dangerous fallacy that fruits should be eaten for breakfast He regarded the habit, in city life, of eating fruit for breakfast as pernicious, for the reason that the person who indulges the appetite with such diet is just getting steam for the day's work, his digestive power is at the lowest ebb and the food is of a highly indigestible nature, and must be digested while all of the person's energies are devoted to business and as little as possible to digestion, besides, one who fills his stomach with raw fruit has taken in very little really nourishing food and consequently his body goes hungry The [illegible]ond point in the Doctor's paper was, fruits and vegetables [illegible]ld be cooked before eating as they are more readily [illegible]sted He said "In plain terms, it takes an admirable [illegible]gestion to digest uncooked food and the man or woman who has not a fine reserve of digestive power brings on indigestion by the use of uncooked food Oddly enough, the moment a patient has a bad vomiting spell or an attack of cholera morbus, he searches as probable cause for some raw food or other, but at all other times he quotes medical authorities to prove that it is so very wholesome to eat lots of raw fruit" His next point was *regarding the drinking of water* He said "Our city men and women or many of them, go along with barely enough water to keep from drying up Then they become addicted to pills, tonics, massage, electricity and Christian science—dying for water while the hose is playing in front lawn Our patients need to be ordered to drink systematically, not what they want but what they need" The Doctor next took up the point of feeding typhoid fever patients with milk He condemned the practice in very strong terms, because milk is a solid and not a liquid food, it is a fine culture medium for many bacilli and especially the bacillus typhi abdominalis Pure water, he said, should be given instead of milk

Health report for the week ending September 10 Deaths, 112, births, male 40, female 35, contagious diseases, diphtheria 1, scarlet fever 18

Societies

A regular meeting of the Polk County (Iowa) Medical Society was held in Des Moines September 6 Papers were read by E E Dorr, J W Cokenower and James T Priestley ——A regular meeting of the Lucas County Medical Society was held September 2 ——The quarterly meeting of the Rhode Island Medical Society was held in Providence September 1 ——The McLean County (Ill) Medical Society held a regular meeting in Bloomington September 1 ——The St Clair County (Mo) Medical Society held a regular meeting in St Louis September 1 ——The Belmont County (W Va) Medical Society held a quarterly meeting in Wheeling August 31 ——The semi annual meeting of the Middlesex County (Conn) Medical Society was held in Hartford September 7 ——A regular meeting of the Lyon County (Kan) Medical Society was held in Emporia, Kan, September 7 ——The regular meeting of the Hornellsville (N Y) Medical and Surgical Association was held September 6

THE PUBLIC SERVICE

Major Charles M Gandy, brigade surgeon, will proceed to Huntsville, Ala, and report to the commanding General, Fourth Army Corps, for assignment to duty

Passed Assistant-Surgeon D L Parker, U S N, is honorably discharged, from August 26

Passed Assistant Surgeon N J Blackwood is detached from the *City of Peking* and ordered home

Surgeon W H Rush is detached from the *City of Peking* and ordered to the naval hospital, Mare Island

CHANGE OF ADDRESS

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Caspers, P, from 2107 Michigan Ave to 53d and Cottage Grove Ave Chicago, Ill
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Dahl S from 667 N Oakley to 822 N Western Ave, Chicago, Ill
Dal J W from 482 Milwaukee Ave to 499 N Robey St, Chicago, Ill
Elgin W F from Bethesda Md to Glenolden Pa
Frost C A, from Almond to Stevens Point Wis
Gordon R N from Ann Arbor Mich to Realty Block Everett, Wash
Gihon A L, from Sykesville Md to 233 Fifth Ave New York, N Y
Gunn J, from 70 State St to 5127 Cornell Ave Chicago Ill
Gilbert J R from Dallas to Ranger Texas
Husk C, F from Chicago Ill to Tepazala Mexico
Hupp A L from West Union to Cherry Camp W Va
Kadlubowski S L from 343 N to 212 E Forest Ave Detroit Mich
Little W J from Ann Arbor Mich to Madison Nebr
MacRae Jno, from Central Mine to Box 46 Calumet Mich
Munson S J from Rochester Ill to Göttingen Germany
McCurdy G M from 136 Park Ave to 637 Madison St Chicago Ill,
Mott B F, from Sykes Block to 1 E 17th St Minneapolis Minn
McLeod J A from Ironwood Mich to 291 Farwell Ave Milwaukee Wis
Noyes A A, from 1910 Hawthorn St to 423 Plymouth Ave, Minneapolis Minn
Petzke F A from Evanston Ill to 139 W Wilson St Madison, Wis
Rumpf W H from 2006 Indiana Ave to 4720 Kenwood Ave, Chicago Ill
Smith E from Burchard Nebr to Lawrence Kansas
Tait, Dudley from 326 Geary to 1043 Post St San Francisco Cal
Woolsey M H from 404 to 1017 Sutler San Francisco Cal
Whetstone A S, *from [illegible]06 to 408 Nicolette Ave, Minneapolis, Minn*

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The Journal of the

American Medical Association

Vol XXXI CHICAGO, ILLINOIS, SEPTEMBER 21, 1898 No 13

ADDRESS

THE CHEMICAL RELATIONS OF REMEDIES IN SCIENTIFIC THERAPEUTICS

Address of the Chairman of the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY JOHN V. SHOEMAKER, M D , LL D
PHILADELPHIA PA

The blood is a nutrient fluid tissue, rich in corpuscular elements The health of the tissues depends upon the health of the blood In the act of nutrition the cells of each organ select their appropriate pabulum The cells are the essential and active components of any organ or tissue In health and disease alike it is the influence of the blood upon the cells that we must study We witness perverted cell action as the result of disease The normal composition of the blood is maintained by the statedly renewed supplies of aliment

As the constituents of normal blood influence the cells according to the type of health, as in disease the activity of the cells is so modified that their functions are very imperfectly performed, so when in disease remedies are given it is still upon the cells that their action is exerted Thus as regards their mode of production, a close analogy exists between the nutrition of health, the disturbances of disease and the action of remedies

As food is obtained from the animal and vegetable kingdoms and includes certain necessary mineral constituents so our remedies are taken from the vegetable and mineral worlds together with some from the animal kingdom, which, however, until recent years were comparatively few in number Within a few years past a variety of preparations have been more or less extensively and successfully employed It is of these and the principles of their employment that I would say a few words today, believing that the subject of tissue therapy and serum therapy is often misunderstood and misrepresented

It was undoubtedly a great advance in scientific medicine when the chemists began to isolate the active principles of vegetable drugs The possession of alkaloids, glucosides, etc , enable us to administer drugs with a precision and efficiency which were formerly impossible A second and, I am disposed to believe, a greater, advance has begun in the introduction of animal tissues, extracts, serums and antitoxins into medicine These methods are yet in their infancy, we are not sure concerning every step in our progress, they are, no doubt, subject in many directions to revision, but they are based upon the experimental work of modern science and may be modified according to future experience When we examine this class of remedies we find that they may be divided into three groups, viz , extracts of glandular and other organs, serums and antitoxins The serums, again, are taken from animals naturally immune to certain diseases and from those who have been rendered artificially immune Correspondingly, as regards their application, extracts are used in the diseases of nutrition and the serum and antitoxins in those due to infection

The doctrine of internal secretion, announced by Brown-Séquard, has been prolific of practical benefit, it has been shown experimentally and clinically that the ductless glands perform a very important office in the economy They elaborate from and return to the blood a material which is necessary to the maintenance of health Other glands which possess ducts for the discharge of their secretions, have been shown, nevertheless, to produce also an internal secretion In the latter class are the testicles and pancreas The testicles were the first organs to be utilized in the treatment of disease When we consider the highly vitalized and specialized character of their secretion we need not be surprised that its loss or suppression should be attended with depression of the physical and mental force Brown-Séquard, therefore, conceived the idea that orchitic extract might be of service in arresting failing nutrition of old age You are all familiar with the incredulity with which this proposition was received Some who tested the new remedy, however, supported the claims which had been made on its behalf and believed themselves warranted in extending its application It has been used with advantage in a number of organic diseases of the nervous system, as locomotor ataxia, chorea and different forms of paralysis In cardiac debility it has also been of service

The most brilliant victory was next won by a ductless gland in the treatment of myxedema The value of thyroid extract in that previously intractable disease has been so conspicuous that negative criticism has been forestalled Under the influence of thyroid therapy the skin softens, the mucoid infiltration lessens or disappears, perspiration returns, the mind clears, the strength increases, the temperature rises and the features lose their deformity Thyroid extract has likewise been of value in relieving cretinism It has been applied to the management of certain other diseases accompanied by depressed nutrition, but although it has accomplished good in some cases it has not been so remarkably successful as in myxedema It was hoped that we might find in the thyroid gland an efficacious remedy for exophthalmic goiter, but our expectations in that direction have not been realized The reports have been scarcely favorable to its use in that disease

The thymus gland has been employed likewise in various disorders of the blood and nervous system, but we are unable to report any decided success from its use Addison's disease stands in much the same relation to lesions of the suprarenal capsules that myxedema does to incapacity of the thyroid gland An extract prepared from the glands has been tentatively used in this disease Experience is not as yet, perhaps, sufficiently extensive to justify the expression of any categorical opinion In a number of instances it has been of undoubted efficacy In some it has increased the strength and relieved the nervous manifestations without exerting any influence upon the pigmentation In others, it has caused a decrease in the coloration as well as improvement in the subjective symptoms The truth probably is that suprarenal extract will benefit such cases as are at all susceptible of improvement When carcinoma or tuberculosis is the cause of suprarenal disease, little can evidently be now expected from any therapeutic measure Nevertheless, some of the cases of Addison's disease which have been ameliorated by this method have apparently been of tuberculous nature The prospect for Addison's disease will brighten if the experiments constantly carried on as regards tuberculosis shall be rewarded by distinct success There are other pathologic alterations to which this disease is sometimes due, and which will probably prove more amenable to the treatment In conclusion, I would say that in a given case it would certainly be be worth while to make a trial of suprarenal therapy

Extracts obtained from other than glandular organs have been employed in the thought that a more direct nutritive supply to the cells might be possible by this means than by those ordinarily employed Extracts of brain and spinal cord have seemed, to competent observers, to have a good effect in neurasthenia, locomotor ataxia, progressive motor dystrophy, senile debility, etc Preparations of cardiac tissue have been injected for asystole, but the most remarkable temporary improvement was in the case of uremia under the care of M Dieulafoy, and to which nephrine was given The case, unfortunately, was too far advanced to be benefited by any mode of treatment, but the temporary results were very striking

Attempts have been made to influence the course of diabetes, more particularly pancreatic diabetes, by using extract of pancreas in such cases Although this treatment had little or no effect upon the quantity of urine passed, yet it often had a favorable influence upon the patient's general condition Pulmonary, ovarian and prostatic juices have been made use of in diseases of the corresponding organs Bone-marrow has given some very excellent results in pernicious anemia

It is fair to ask whether suggestion does not play an important part in the improvement under such methods This may, indeed, be a great factor in the care of functional nervous maladies, but pains were taken, in most instances, to eliminate its influence, and in organic disease suggestion would have less effect

We seem now to stand upon the brink of a new era in therapeutics We look to organic chemistry to furnish us with the active principles of tissues and serums, as it has given us the active principles of vegetable drugs As the active principles of all plants have not yet been isolated, it need be no wonder that in a new field and dealing with complex animal tissues, this problem, for most substances, remains unsolved A beginning, however, has been made The efficacy of orchitic extract depends upon the presence of an organic crystalline substance called spermin, which exists in combination with hydrochloric acid The active principle of the thyroid gland is believed to be the substance isolated under the name of iodothyrin In the same way the antitoxins, in so far as they have been discovered, may be looked upon as the active principles of the immunizing or curative serums Schaefer and Oliver have obtained from the medullary portion of the suprarenal bodies an organic principle which has a powerful action upon the heart, voluntary muscles and peripheral arteries

The serums obtained from animals rendered artificially immune, contain antitoxins, and have proved of more value than those from animals naturally immune to certain maladies The typic instance of success in this form of therapy is diphtheria antitoxin The wonderful reduction in the mortality from diphtheria which this preparation has effected can not be gainsaid Every physician should seriously debate in his own mind whether he has done his duty in a case of diphtheria if he has neglected to take advantage of the immunizing and curative properties of diphtheria antitoxin As diphtheria is such a wide spread disease, every reason, humanitarian and sanitarian, as well as scientific, should combine to make us welcome this important advance in the treatment

Though by no means as common as diphtheria, tetanus is a justly dreaded malady Its terrible manifestations, and the failure of other methods are in glaring contrast to its improved statistics under an antitoxin treatment

I shall merely allude to the progress of laboratory and bedside studies with serum therapy in suppurative diseases, leprosy, cholera and the plague They depend upon similar principles and may require modification as regards many matters of detail, but we may hope that in the end much good will be accomplished by these means The problem concerning tuberculosis has not yet been solved Notwithstanding the great and deserved scientific reputation of Professor Koch, his methods have failed to achieve the desired results Nevertheless, it seems probable that he is working upon correct principles and that success will at length reward his efforts, or if not his own, those of some other observer

Sanarelli is now complementing his brilliant investigations into the bacteriology of yellow fever by the attempt to treat the disease by means of an immunized serum Some favorable clinical results have been reported and it is possible that the comming summer may see some experiments on a large scale among American troops on the island of Cuba It is well known that Surgeon-General Sternberg is personally interested in the subject of the yellow fever bacillus Professor Chantemesse has recently read a paper upon the soluble typhoid fever toxin and antitoxic serum of typhoid fever In this important communication the author describes his experiments upon animals, and concludes in these words "Fortified by these experiments, I injected some antitoxic serum into a patient suffering from typhoid fever The value of this new method of treatment can only be determined by a statistical study and numerous observations I may say, however, that the serum acted well in an antitoxic manner, diminishing and suppressing the nervous symptoms, lowering the temperature and promoting the recovery "

A few years ago Drs G and F Klemperer endeavored to obtain an immunized serum capable of curing pneumonia Some encouraging clinical trials were made, but the serum did not seem to have sufficient strength to be practically useful Others have labored in the same direction, and it has recently been announced that Professors de Renzi and Pane, of the University of Naples have devised a method by which large quantities of a powerful serum can be obtained A series of cases was observed in which very excellent clinical results were obtained in Professor de Renzi's service, and in the *New York Medical Journal* for May 7, 1898, Dr Antonio Fanoni of New York describes a case in which he made use of this method with success

As analogous to the antidotal action of antitoxins and serums, may here be very briefly mentioned the antagonistic action sometimes seen between different diseases Thus, a fever has been known to cause the disappearance of new growths or glycosuria, and impaired eyesight has been improved by an attack of smallpox

It seems that at this juncture we must look to physiologic chemistry for assistance in further progress With the isolation of the active constituents of the various glands and serums which have been thus far experimentally employed, we should be in a position to administer such remedies with greater precision and greater advantage The chemistry of bacteriologic products has already given us a number of substances of definite composition It is now highly desirable that all the organic juices, extracts and serums should be analyzed in order that we may be able to estimate the comparative value of their constituents and study their physiologic action The effect of the animal extracts upon the healthy animal has been the subject of an elaborate series of experiments by Professor Isaac Ott of the Medico-Chirurgical College of Philadelphia What is next of importance in the study of these extracts is that we should be able to determine the substance or substances upon which their activity depends in precisely the same manner as we have learned that morphin is the active principle of opium, strychnin that of nux vomica, ptyalin of the saliva, pepsin of the gastric juice, pancreatin of the pancreatic secretion, etc As, however, pancreatin is not the sole digestive ferment of the pancreatic juice, or morphin the sole alkaloid of opium, so, it may be, the complex organic tissues may contain principles having various actions If these various constituents can be separately prepared and their individual values estimated we may be able to admister them separately or combined, according as they may be indicated This would constitute a step in advance and would enable us to prescribe the active principles of animal extracts with exactitude, just as we can now, at our discretion, order pilocarpin to represent jaborandi, or caffein to represent caffea, etc Another important advantage which would result from the chemical analysis of this class of remedies would be in obtaining standing or uniform products As it is at present, we have a number of animal products obtained by different discoverers and prepared by different processes and having, perhaps, rival claims to our favor Have we not reached such a point in the evolution of this subject that analogous preparations can in this way be standardized? It is necessary that the exact degree of the virulence of the toxins and antitoxins of therapeutic serums should be accurately known and should be maintained at a certain fixed standard, and this point was urged at the recent Ninth International Congress of Hygiene and Demography by Professor Behring It appears that it should now be possible to determine a standard type of serum, especially antidiphtheritic serum, according to which the therapeutic results reported by observers in different countries might be fairly comparable At the congress referred to it was decided that a committee of experts should be appointed to consider whether there would be any advantage in having a uniform international standard of strength in the case of antitoxic serums

The processes by which all these preparations are made should be the common property of the scientific world, just as we have in the United States Pharmacopeia directions for preparing all the official products Different specimens of any crude drug of vegetable origin will give quite a notably different percentage of the active constituent No matter what this variation may be, however, we know that when we make use of an alkaloid or glucoside we are dealing with a substance of definite chemic composition, the same under all circumstances and by whomsoever manufactured Has not the time now arrived when such a work should be begun in reference to glandular extracts and curative serums? We should then appreciate more exactly upon what basis we stood Finally, those which have been proved of value, as, e g, iodothyrin, should be made official and adopted into the United States Pharmacopeia, with full instructions regarding the mode of their preparation The physiologic and therapeutic effects of these active principles of extracts and serums could then be separately determined Their utility in medical practice could be more justly estimated and this new branch of applied therapeutics be placed on a more scientific foundation

This, it seems to me, is the line along which future progress is to be made The entire evolution of the subject under discussion is so recent, it is based upon conceptions so essentially modern, that we need not be surprised if all its promises have not yet been realized The good which has been accomplished in diphtheria alone is an ample reward for the labor that has been spent in its development and a justification for the hope which is entertained of the success of this method of therapy in other diseases It is based upon the most modern doctrines concerning bacterial activity, immunity and mode of cure A powerful trend has for several years been setting in in this direction, and the present status is the outcome of numerous independent or collateral lines of investigation

Immunity is better than cure If an immunized serum is capable of conferring immunity against a certain infection, it will be very readily comprehended that an immense boon has been conferred upon humanity

If it be found that this immunity against an infection is, not permanent, but lasts only for a certain time, it will be an easy matter to repeat the operation at stated intervals upon a fresh exposure, just as we now hold ourselves prepared to repeat the process of vaccination upon the outbreak of smallpox or after the lapse of a certain number of years This is, indeed, nothing more than we observe in nature, for although an attack of one of the eruptive fevers generally confers immunity for life, this rule is by no means universal Other species of infection, as is well known, far from bestowing future immunity, predispose to successive attacks

ORIGINAL ARTICLES

MODERN TREATMENT OF TUBERCULOSIS

Presented to the Section of Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo, June 7 10, 1898

BY CHARLES DENISON, A M, M D
DENVER, COLO

I am requested by our Chairman to formulate the theories and conclusions on the modern treatment of tuberculosis The object is to bring out your thoughts and excite discussion, and I trust I shall not fail in this purpose As there are no two cases of tuberculosis in a thousand alike in all their various phases, so I might almost say there are no two physicians who will treat these manifestations in the same way, even if they are all recognized, which is a question Our mental appreciation of this most important of the diseases which afflict the human race is in a formative state I fancy one would only have to announce a set plan of management, which he would carry out as suitable to the great majority of his own patients, and the desired controversy would at once be set in motion in opposition thereto

Taking 100 per cent as a basis of what we, as physicians, can do by advice and treatment, and allowing a margin with regard to the great variety in cases, the accompanying table gives the estimate of treatment which I propose for your consideration You may say it is my own conclusion based upon my personal experience with the disease and twenty-five years' practice in Colorado You may also assert that experiences all differ and you can not vote as I do That is just the kind of discussion I am after

Since it is assumed—in which I trust you all agree with me—that the best make-up of the "modern treatment of tuberculosis", is a composite affair, I may state the divisions or heads, with this admission, namely, that they naturally run into each other, consequently some concession is needed in making any divisions at all Notwithstanding the difficulty in pinning medical men down to positive conclusions, which peculiarity may have been brought to your notice, I have tried to make these divisions of our topic fair and just for the purpose in hand, namely, to bring out discussion and, if possible, arrive at some definite conclusion as a basis of a successful fight against this terrible scouge

TUBERCULOSIS TREATMENT TABLE, APPROXIMATE ESTIMATE OF RESULTS

	Proportion of benefits due to	Range of per cent	Average per cent		
1	Climate and change, involving mental influence	15 to 45	30	45	
2	Exercise and out door life	10 to 20	15		
3	Good feeding, special dieting and attention to alimentary canal	10 to 20	15	30	55
4	Medical supervision and medical treatment	5 to 25	15		
5	Inhaling, local medication and surgical interference	5 to 25	15		
6	Specific medication, based upon antitoxin treatment	0 to 20	10		
	Totals, per cent	45 to 155	100		
		100			

I shall devote most of the time allotted to me to the consideration of the last two divisions of this combined treatment Therefore let me save the repetition of my own arguments in substantiation of so large percentages given to the first three of these means by referring to papers I have written [1]

It must also be borne in mind that the physicians' services extend all the way through the last four of these remedial means, i e, have to do especially with a calculated 55 per cent of all that can be done in the way of treatment

The third and fourth divisions should naturally be grouped under a combined head, giving an average of 30 per cent of the total benefit This is perhaps a sufficient concession to this important part of the individualizing process, which it is the duty of the medical adviser to see to in every case

To the fourth division—medical supervision and medical treatment—to which a proportion of 15 per cent is given, it may be objected by some that too little credit is given the professional adviser for what can be done The physician at best is but an aid or guide Mostly all is due to the energy, faithfulness and perseverance of the patient himself To be sure, tonic treatment, strychnia, arsenic, hypophosphites, etc, for "toning up," and guaiacol or creosoted preparations for antiseptic effect, chiefly in the upper portion of the alimentary canal, are entitled to recognition and should be granted a limited per cent of the good we can do The possibility of so saturating the blood with an antiseptic or germicidal agency, such as creosote, that the tubercle bacilli will be stopped in their sporing or growth, and the patient not be injured thereby, is a mere speculation The efficiency of this method, which is at the present time very attractive to a large proportion of the profession, has not yet been demonstrated, further than to show an antiseptic effect in the alimentary canal and upon the lining membrane thereof

The fifth division of our aid—inhaling, local medication and surgical interference—naturally covers a more uncertain field, for not all cases are equally suitable for their employment When the tuberculosis is centered in the upper air-tract, it has been very generally admitted that through inhaling and local treatment medicaments may be made to reach the affected parts, and a staying of the progress of the local disease be accomplished

The doubt has been, however, whether inhaled antiseptic or germicidal agencies ever reached the alveoli and bronchial terminals, where the disease is oftenest located and has its strongest intrenchments This futility of the ordinary and old-fashioned plan of inhaling is a fact It is true that the more a lung is diseased with tuberculosis and the usually accompanying infiltrating and shrinkage process, the less possible is it that inhaled medicaments can reach the affected parts The treatment, whether it be pure or ozonized air, or etherealized or atomized germicides, all goes to the flexible, the healthy, lung

Here again, for lack of time to fully elaborate the argument, I shall have to refer to papers I have written upon this subject [2]

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[1] For the first means—climate and change involving mental influence—see article on The Climate of Colorado for Respiratory Diseases" published in the JOURNAL for May 7 and 14 1898 I believe this argument warrants the 30 per cent of advantage allotted to this agency of climate

For the second means—exercise and out door life—to which 15 per cent of the total benefit is given, reference is made to the essay on Exercise for Pulmonary Invalids," read before the Congress of Medico-Climatology of the World's Fair Congress June 1 1893

For the third division—good feeding etc —to which an average of 15 *per cent of all good is attributed, reference is made to* Food for Chronic Pulmonary Invalids," read before the Colorado State Medical Society, June 20 1894

[2] Exercise for Pulmonary Invalids," op cit "The air pressure Inhaler and Exhaler," N Y Medical Record Feb 10, 1894 "New uses of the Inhaler and Exhaler" Dietic and Hygienic Gazette, June 1897, and espe-

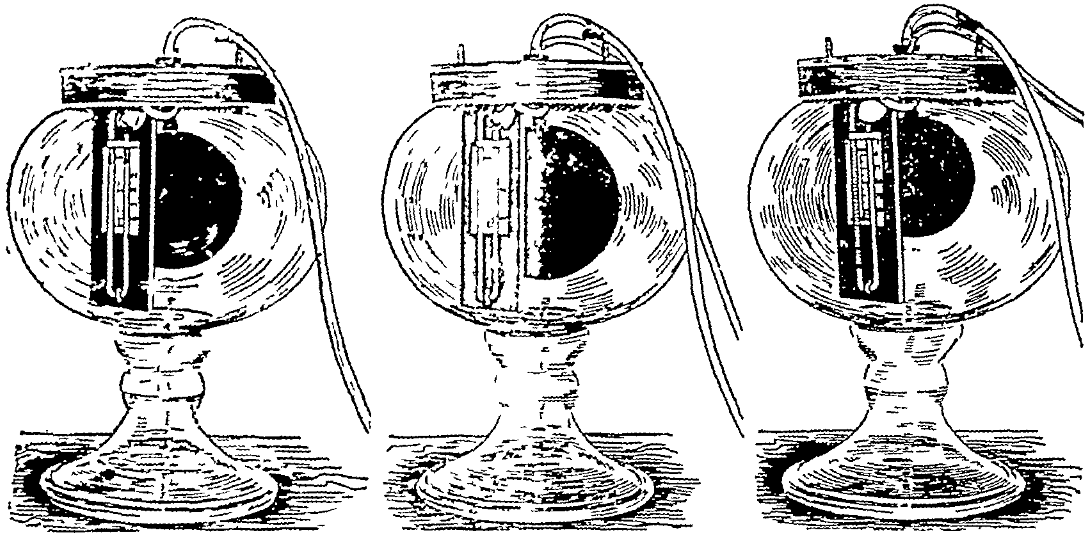
I desire to demonstrate more clearly than has been done heretofore the fact that the correct system of inhaling, or more properly, exhaling, altitude above the sea and rightly directed gymnastic training, all work upon the same principle, namely the *mechanical distention* of the air cells The reciprocal relation of diseased and healthy lung in the same thorax, and of the air and blood within a given chest with reference to respiration, does not seem to me to have been sufficiently recognized by anybody that I know of, unless it be Dr T N McLean of Elizabeth, N J, in his late paper "Personal Observations in Pulmonary Phthisis"

This is perhaps a bold statement, but I believe it is fundamental to a proper understanding of the incipiency, the progress and the control of pulmonary consumption It is quite possible that our inability hitherto to account for the localization of so much of tuberculosis in the lungs, is due to our own fault, because we have failed to recognize the mechanical conditions within the chest which govern respiration and blood circulation [4]

Now, I blow up the air cell, and the condition of air-pressure in the globe, but outside the air-cell, is exactly similar to the pressure upon the blood current within our chests, i e, greater during expiration than during, and in fact, the reverse of, inspiration To prove it pull out the plug and hear the whistle in the vessel's exit opening How well this shows that the blood does not flow alone because the heart pumps it, but because the lung mechanism draws it in and forces it out again How strikingly it shows the preponderance of the expiratory over the inspiratory power of any individual, indicated by the manometer records, proving that it is only during expiration that we have any power at all to distend the air-cells, mechanically closed either by inaction or disease How important then is the use and control of expiration (not inspiration) to maintain the health of the lungs You see how it is that gymnastic training and any system of inhaling, to be of use, must depend upon the habitual mechanical distention of the air-cells, and that from the nature of things, can only occur during expiration The will power given us to prolong and intensify expiration with a fixation of the chest and a lateral expansion of it, due to muscular effort, is our main reliance It enables us to imitate, yes and to healthfully exaggerate, the natural remedial effect of high altitudes in phthisis

THE ILLUSTRATING AIR-CELL (DENISON)

To show the expanding effect of lessened atmospheric pressure upon the pulmonary organs by toy balloon and manometer inside a sealed glass globe



DENVER PRESSURE
5,200 feet elevation, about 12½ lbs to square inch Diameter of cell (balloon) $1\frac{11}{16}$ inch

13,000 FT ELEVATION PRESSURE
9 lbs to square inch, same air in balloon expanded Diameter of cell about 1 [illegible] inch

SEA LEVEL PRESSURE
15 lbs to square inch, same air contracted Diameter of cell about $1\frac{8}{16}$ inch

The *illustrating air-cell*, which I here show you, I have devised to suggest more clearly to the mind these intrathoracic mechanical conditions This three gallon glass globe is to represent the thorax It is, as you see, rigid and should be air-tight The muscular force, to represent living conditions, is transferred to the interior of the globe by an air-pump or by our own breathing power The record of that force, or air-pressure, is given by a manometer inside the globe There is an opening in the cover to represent the exit or entrance of the blood-vessels which are in the thorax This has a valve in it which will whistle when the current is outward Finally, in the center, connected by a tube with the outside, is this rubber balloon representing a flexible air-cell, which you may imagine, if you will, to be one of your own air cells magnified a million times, more or less

A total increase of expiratory power, more than any other agency, can account for the benefit which results to an invalid arriving at the height of 6000 feet in a climate like ours You can see by this illustrating air-cell how it is that he *has* to breathe a fifth more air than he did at sea level to get the same amount of oxygen here as there

It only remains for us to draw out about three pounds of the pressure there is in our glass globe, and you will see the air-cell expand nearly to the approximate conditions on top of Pike's Peak I can then show you the biggest jump that an air-cell ever took—from the summit of Pike's Peak into the Atlantic Ocean! It is simply done by letting into the globe again our Denver air-pressure, and then adding three pounds

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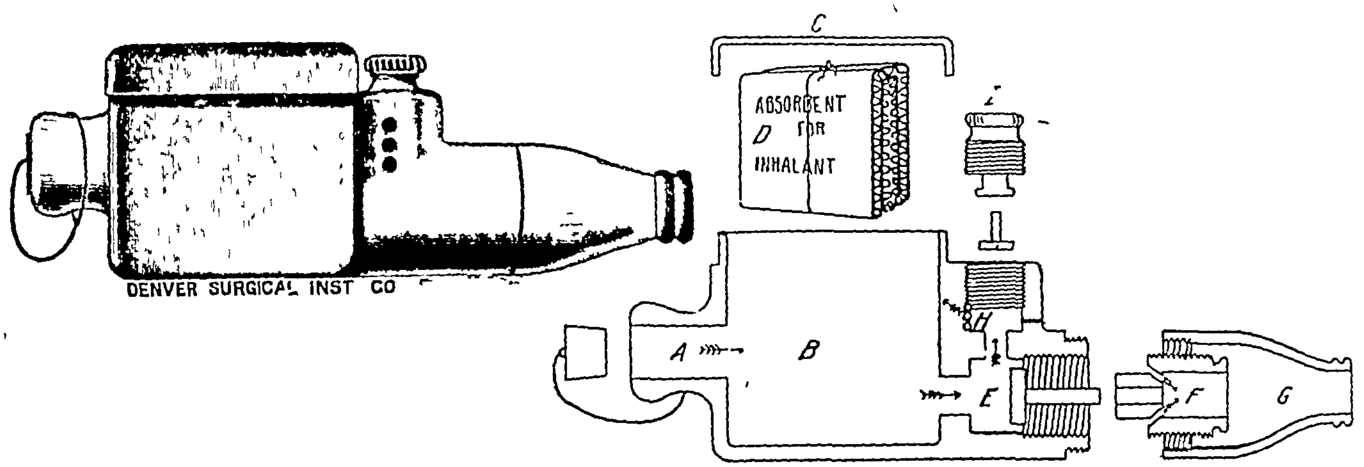
cially one just read before the American Academy of Medicine upon "The Advantage of Physical Education as a Preventative of Disease"

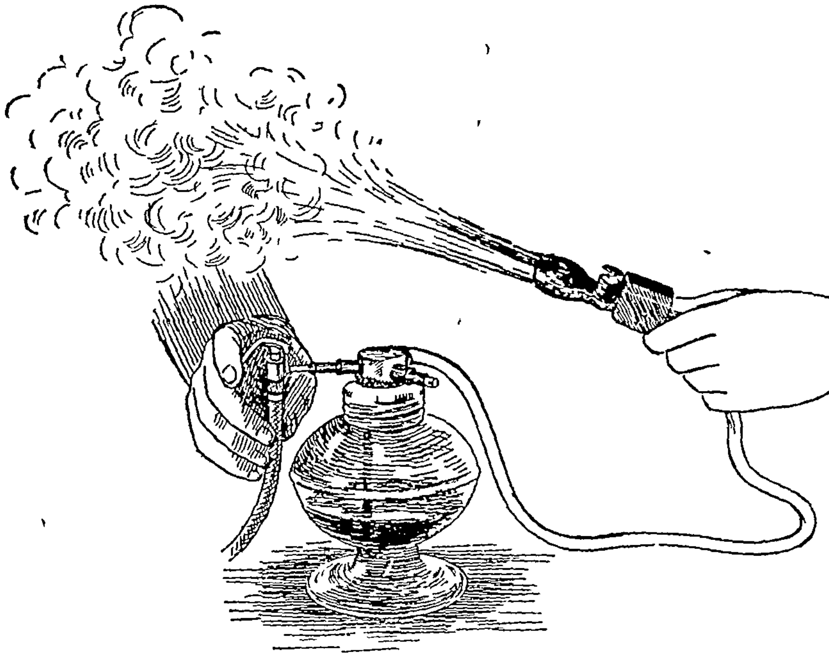
[3] Journal of the American Medical Association Feb 5 1898

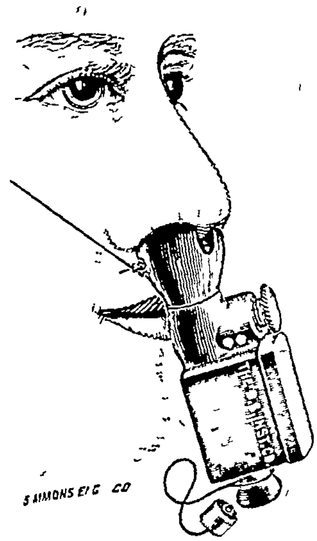
[4] "Abnormal Intrathoracic Air pressures and Their Treatment" by the author President's address American Climatological Association See Transactions for 1890

thereto. The contracted air-cell shrinking from the increased pressure around it, immediately suggests to the mind why it is that low altitudes favor lung inactivity, as it also suggests why it is that the contents of closed cavities, the brain and spinal cord, become congested with blood in the caisson disease.

It was not only as a possible substitute for, but as an imitation of and an aid to, the good mechanical effects of the lessened atmospheric pressure of high altitudes upon the pulmonary air-cells and blood-vessels in disease, that I devised the Inhaler and Exhaler first described in the *Medical Record* in February, 1894. For convenience in pocket form, so that the desired mechanical distention of the air-cells and the needed lateral expansion of the thorax may be had every half-hour or hour in the day, for adjustability, possible according to the strength of the user, whether bedridden or an athlete, and for a means of reaching the air-cells and bronchial surfaces with volatile oils and salts, nothing that I know of has been contrived to equal this device[5].







Physicians who have faithfully used this inhaler, have asserted that 15 per cent of the benefit a pulmonary invalid may get from an average treatment, such as here outlined, is too small an allowance for the good received from this method of inhaling. The effects upon the spirometric capacities and manometer records of invalids, who have used it according to directions as to persistence and energy, have been indeed gratifying.

I have to show you here my own modification of the inhalation of finely atomized volatile oils, a method which is very popular with some physicians as an office means of treatment. Suppose you have by water, or other power, a pressure of 30 or 50 lbs in your office compressed-air reservoir. This is connected thus with a globe inhaler bottle, having an instant cut-off interposed, and this vaporizer in turn is connected by another rubber tube with the Inhaler and Exhaler with nosepiece on instead of the mouthpiece. The delivery is made only during long, full inspirations, and the patient breathes back into the inhaler under a mild resistance of the exit value, so as to get impingement of the medicated inhaled air against all bronchial, throat and nasal surfaces.

There are any number of combinations of volatile oils and germicidal salts possible to be employed by this method, but something like the following combination I have found to be most satisfactory for average cases.

℞ Ol eucalyptus (Tyndale's) 20 to 40 per cent, carbolic acid crystals 10 to 30 per cent, oleum pinus Pumilio (Merck's) and liquid guaiacol (Schring & Glatz), of each 5 to 10 per cent, oil of cloves and cedar, of each 2 to 5 per cent , and formalin one half to one per cent

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[5] The Denver Surgical Instrument Co.

With this combination medicate your vehicle, whether it be liquid vaselin, glymol or albolin, to suit mild, ordinary uses Then, for extra antiseptic or stimulating effect, the absorbent in the medicament box can be additionally medicated with formalin or other germicidal means for temporary use This finely atomized spray you can see, as one who breathes it can feel, reaches all open spaces even to the ultimate air cells, for considerable of the vapor returns with expiration, thus showing that some of the medicament has not been condensed What proportion of it has been we do not know, but the results in tubercular affections, especially with "grip cold," hypertrophic rhinitis, ozena, laryngitis, bronchitis, etc , are quite satisfactory

I have included an allowance for surgical interference, which is an important field in bone and joint tuberculosis, so called scrofulous gland affections, lupoid skin diseases, laryngeal ulcerations, adenoid growths, tubercular pleurisies, etc I must, however, here put in my protest against the surgeon's hasty interference in operating upon fistulæ in-ano while tubercular infection is at all active in the lungs I believe we should consider these fistulæ as eliminating means on the conservative order, and unless substitutive elimination is provided for, an operation should not be performed

There is certainly no lack of opportunity for discussion with reference to our sixth and last subdivision of treatment, that of specific medication, for the very fact of there being any specific or antitoxin treatment of tuberculosis will be called in question This opposition exists, notwithstanding there are on every hand around us, instances of acquired immunity to tuberculosis, though perhaps limited in degree Wise professors will confidently state that it is "a will-of-the wisp" to even seek such an agency as may be termed a specific for tuberculosis Yet if the disease is due to a special toxin working in the system, it must be only through the development in that system of the appropriate antitoxin, or by the addition of it when created outside the body, that sufficient resistance can be had to stay the progress of the disease Such resistance is what these opponents are after, whether by the means of tonics, exercise, or climates Yet they would seemingly call in question the very source of that natural resistance, namely the natural or artificially created antitoxic condition of the blood or tissues, which is antagonistic to further tubercular infection These opponents then seem to admit the existence of a toxin, but deny that of an antitoxin

Leaving open for discussion the question of fact as to the existence of an antitoxin or specific (for tuberculosis), created or existing outside the human body, I am going to assume that the creation of such an antitoxic agency in the affected or infected system is admitted, and that that existence or mode of resistance is in perfect harmony with nature's methods in eliminating other specific diseases

We will then divide the antitoxin treatment of tuberculosis into two distinct methods the *direct* and the *indirect* These two should not be confounded with each other, as is the habit of some men in speaking of the tuberculin treatment

The former, the direct method, is that inaugurated by Koch as the outcome of his discovery of the bacillus—the reputed cause of tuberculosis Under the limited knowledge of the agency and of the disease it was to cure, this remedy soon demonstrated the need of an advanced chemistry in the technique of its preparation, and an enlightened skill in its administration beyond anything which existed in the scientific world Since this discovery, the eight years of study and investigation of a few faithful observers, under most difficult and discouraging conditions imposed upon them by an onlooking and rather belligerent professional brotherhood, have served to develop a limited improvement in the particulars just named I might say that this improvement in chemical technique, and afterward in administrative skill, had been considerable, if any due recognition of it had been manifest on the part of the medical profession as a body This I will say, however I firmly believe that tuberculosis could be held in check, if not cured, by this means, up to the proportion of, and even beyond, the 10 per cent allotted to it in our table, if, with the present advanced technique in the manufacture of these direct tuberculin preparations the physician using them had the required knowledge to discriminate what patients could be treated by this method, and how far the treatment should be pushed He should not only know the strength of his remedies, but also the *percentage of infection* with which he has to deal It is a most gratifying and successful method of treatment if the condition favorable to its success can be secured But the technique must be exact, and the general and individual objections to the use of such an antitoxin-creating remedy must be recognized Thus, a knowledge of the applicability of the treatment narrows down its use to a small field For instance if the powers of nature are already over taxed in an antitoxin effort, as in acute or miliary tuberculosis, nothing but harm can come from any increase of nature's burden

It is likewise absurd to expect to reach with this treatment, closed or open spots, as cavities in the lung, or shut-in ulcerated regions where the blood does not circulate And yet, most cases of pulmonary consumption harbor these conditions, many of which I believe are never recognized If the treatment is inadvisable in caseous pneumonias and acute conditions, then I conceive it is quite possible that in some serious cases not acute, the massage, first recommended by the Germans as an auxiliary aid, may do damage by loosening up toxic material, and surcharging with it the blood already overloaded However, if either incipiency of tuberculosis, or a chronicity, which is its equivalent—and chronicity brings equivalence because of some already acquired immunity—is known to exist, there is then no question but that the direct tuberculin method is the natural method of cure

If time permitted I would elaborate this theme However, I trust it will be acceptable to show a few of the cases I might call upon in this vicinity, who have become pretty thoroughly immunized against tubercular infection chiefly through this method I have chosen ten cases, mostly those treated with Koch's crude tuberculin, from three to over six years ago, and have asked them to be present that you might verify their healthy appearance These cases are purposely selected as those upon which the influence of climate has been very slight

Case 1 —Miss N S over five years ago treated with Koch's tuberculin Diagnosis then made with tuberculin, there being no expectoration Physical diagnosis then indicated First stage both apices, and tubercular disease of the right hip joint, due to injury four years previously, took as high as 160 mg of tuberculin to the dose before a four months' course was ended Had walked on crutches for over three years previously, but soon, and while under treatment, discarded them, Finally could step up stairs, raising the injured limb first, something she had been unable to do for four years Weight, strength and all symptoms improved during treatment—weight then 110½ pounds, now 146 pounds and she walks without the limp she used to have She has lived in Colorado since 1881, and climate had very little to do with it This case is the same reported as case 2 "Favorable Results of Koch's Tubercular Treatment in Tubercular Affections that are not Pulmonary," in the *New York Medical Journal*, Aug 3, 1895

Case 2 —C F M had been four years ailing, and had lived in the Rocky Mountain regions most of that time, when I first saw him in July, 1892 He was shown to be tubercular by microscopic examination of sputum, had a large cavity in right infrascapular region, say 2 by 4 inches in size and softening to the extent of excavation on opposite side, from which spots he was bleeding on any exertion Had been confined in bed five weeks on that account His hemorrhages were stopped by mechanical means, a properly adjusted harness or chest corset and tuberculin treatment was gradually instituted This was distributed over different periods during the following two years, and he took as high as 240 mg crude tuberculin for the largest dose Accidents have occurred from mechanically straining the large cavity in his right lung, which cavity two or three years ago assumed the shape of a cucumber or banana Three years ago, when, under protest, he went to live in Leadville, Colo, he had hemorrhages, and they have been repeated at other times, but his remarkable vitality and considerable immunity each time have brought him through Of late years, without tubercular activity this case has assumed the conditions of purulent bronchitis *i e*, coexisting contracted cavity and bronchiectasis There are now purulent evidences, but seldom any tubercle bacilli found in his abundant expectoration Both of these cases are remarkable, and each by itself sufficient for a whole paper had we time to elaborate them

Case 3 —S T B, in April, 1893, was brought to me by his father, who had come to take him home to Pennsylvania, as in Colorado Springs hope of his recovery had been abandoned He had reached the stage of tubercular softening in both lungs and had been affected three years, the last six months of which time he had lived in Colorado The susceptibility to crude tuberculin was gradually overcome and he took considerable quantities of this or the antiphthisin (Kleb's) Since his immunity became established he has enjoyed excellent health

Case 4 —F E D Period of incipiency uncertain, perhaps two years Arrived in Colorado in July, 1895, when he had "mixed infection" bacilli in sputum and first stage of tuberculosis in left lung Soon thereafter a small nodule came on scalp, in which, when it softened, a tubercle bacillus was found While undergoing the first immunization with tuberculin he injured his elbow in a fall and that joint became tubercular during the resulting inflammation The periostium of the ulna was affected, with probably some implication of the elbow joint, as, in a subsequent operation performed by Dr C A Powers, some of the joint fluid exuded After laying bare and scraping the bone healing was greatly aided by a continuation of the immunizing process This did not entirely remove the difficulty, and some two years ago a second operation was performed, at which time the ulna was drilled through and quite a piece of necrosed bone removed The recovery under antiseptic packing and the treatment with antiphthisin was most excellent, only slight evidences of bone and joint disease remained and no trouble whatever with his lungs A year ago he returned to his Vermont home On coming back to Colorado last winter he had an attack of la grippe and that focusing agency in tuberculosis seemed to excite the latent disease of the affected elbow joint into activity The swelling, immobility, pain and ulceration portended the possible necessity of resection or amputation A very satisfactory test was made with crude tuberculin, warranting a renewal of specific treatment, this time with Von Ruck's purified tuberculin and ending with the "watery extract" Nothing could be more positively demonstrative of the good effect of the course pursued than the subsidence of swelling, soreness, lessening of the local discharge and general improvement which immediately resulted, in fact apparent complete recovery Here is a study for those surgeons who scoff at tuberculin It should convince them that there is a mild and immunizing power in this agency beyond their ken—something which may prevent the necessity of the use of the knife in many cases and perhaps warrant its use in others previously considered inoperable

Case 5 —Miss N McK is another surgical case in which the influence of climate seemed to have already been exhausted, for she had nearly recovered from the lung disease for which seven years previously she had come to Colorado This is the scrofula gland and first stage case previously reported[5] In February, 1896, Dr Powers, assisted by Drs O'Connor, Pedersen and myself, removed from the right side of this woman's neck sixteen or seventeen glands which together filled a teacup On that side they had commenced to ulcerate and there were nearly as many more on the left side, filling the depressions from the ear to the clavicle These latter not being so far advanced, were deferred for a future operation Encouragement to continue this immunizing process was afforded in the gradual shrinkage of the remaining glands and general improvement of the patient as treatment progressed You see now, after two years only the remnants of those scrofular swellings on this left side

Case 6 —J T U, treated March, 1892, for tuberculosis (bacilli in sputum), which seemed to have reached the second stage in the rear base of left lung He had had some trouble, combined with pleurisy there, coming on for four years Now he is a fine specimen of health His treatment with considerable doses of crude tuberculin was before the discovery of any improved modification of the drug

Case 7 —G T S Treatment commenced before the last-named, six and one half years ago Reacted profoundly to 2 mg crude tuberculin giving from the normal a temperature rise to 103 degrees F The treatment was pushed and there were no reactions to the 20 mg dose It was continued to 50 mg and then stopped He has had little medical attendance since

Case 8 —C R, affected half a year when he came to Colorado, three and one half years ago He had pleurisy at base of left lung, in the apex of which softening had occurred, and there were first stage symptoms on right side, bacilli in sputum, etc Since immunization three years ago he has gone through typhoid fever His condition of health at the present time is something to recommend any course which will accomplish so much, even admitting climatic influence, physical exercise and faithful co operation of the patient as aids

Cases 9 and 10 —Husband and wife Wife first treated four years ago and husband two years Both had excavations, wife in apex of right and husband in upper part of the left lung toward axilla Wife first treated with crude tuberculin, husband with antiphthisin Both of these, for seeming loss or insufficiency of immunity, were again treated last fall with Von Ruck's "watery extract of the dead bacilli" Others of this list besides these two have shown the happy return to the tuberculin effect when a renewal of the treatment seemed necessary A patient once benefited by tuberculin may in three months to two years reveal a certain loss of his acquired immunity, thus showing how relative to one s infection is his own resistance

If a reason is required why so small a ratio of possible relief is attributed to this specific treatment by one who believes in it as I do, let it be understood that only a small proportion of the tubercular cases coming to Colorado are selectable for this method It ought also to be recognized that the failures with tuberculin have been due not so much to inefficiency as to the lack of knowledge on the part of the physician how to discriminate cases fit for its use, as well as to a disinclination to attend to needed details in the technique of its administration

I regret the lack of time to go more fully into details, and the necessity, therefore, to somewhat summarily dispose of the second method of the antitoxin treatment This is the indirect method, wherein, instead of exciting in the human body a resisting antitoxin to a given disease, it is created in an animal and then given gratis to the invalid In the former (the indirect) method there are two speculations which are severe enough tests to be sure 1 the toxin remedy, and 2, the uncertain patient, while in the latter (the indirect) method there are three additional speculations These are 3, the choice of the animal, chiefly with reference to its natural immunity to tuberculosis, *i e*, whether the dog goat, ass, horse or lion is best In fact, to what extent a natural immunity to this disease, admitting that it must be relative to surrounding conditions, can be conferred through the blood serum to a human being, is an open and undetermined question 4 The quantity and quality of the immunizing toxin to be administered to an animal whose serum is to be used This is a reasonable speculation not yet removed from the realm of uncertainty 5 The time said animal should be treated, both before the injections are stopped and afterward, before the blood is drawn, is an important speculative point Dr G T Hunter, who is present, has kindly presented me with some lion's serum, which was taken from an animal kept under the most favorable immunizing conditions up in the mountains of Germany Treated nine months, at first with highly virulent doses of tuberculin toxin, with gradual cessation as immunity was reached, and a whole month allowed to intervene between the last injection and the taking of the serum Whether that procedure is the proper one or whether with different animals this may not be waiting too long for the best results, is a question of speculative nature The burden of proof as to these three extra objections rests with the advocates of this indirect method My own good success with horse serums during the first four to six weeks' treatment of a dozen or more patients was perhaps due to personal precautions, i e , not increasing any dose which gave a reaction to the previous treatment, and not, as directed by the manufacturers, giving daily, but instead, every other day injections The after evidence of the possible cumulative effect of such mixed foreign substances, introduced into the blood of a patient, led to a fear that the resistance to the disease in individual cases was overtaxed The unfavorable results of other physicians, who crowded this treatment according to recommended rules in printed directions, served to confirm the conclusion that an antitubercular serum is a mixture, the exact proportions of the converted toxins or antitoxins in which we do not fully understand The serum treatment of tuberculosis, as yet, is a beautiful dream, which I for one profoundly hope will be realized

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[5] The Microscopic Proof of a Curative Process in Tuberculosis Transactions Colorado State Medical Society, twenty sixth annual meeting

Pardon the extension of this paper and do not lose sight of the arbitrary divisions of treatment given in the table presented for the purpose of bringing out in discussion your various views

To sum up, the following conclusions are advanced

1 As a part is greater than the whole, the combined method is superior to any given branch of the treatment The individualizing process, and the adaptation of all methods to the needs of a given case, is the preferable plan

2 The seasonable change of residence to a well-selected high-altitude climate, with its dryness, sunshine, possibilities of out door life, and its stimulating qualities, gives the best possible resistance to the advance of consumption

3 Exercise is most essential and necessary to promote both cell activity and the needed mechanical distention of the air-cells

4 Local treatment and proper inhaling methods bear important relation to exercise, cell stimulation and the climatic effect by the high altitude method

5 A great and most valuable addition to our curative means comes through the skillful determination of the proportion of infection, in order to know the balance between bodily resistance and the disease This balance is the key to the as yet preferable—the direct—method of specific treatment

6 It is a mistake to overwhelm the body with frequent injections of undetermined animal serum, thereby producing either a severe reaction or a possible cumulative toxemia

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ANTITUBERCLE SERUM (PAQUIN) IN TUBERCULOSIS

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY WILLIAM HUTSON PRIOLEAU, A M , M D
SUMMERVILLE S C

At the forty-seventh annual meeting of the South Carolina Medical Association, held in April, 1897, I had the pleasure of making a detailed report of cases of tuberculosis treated with antitubercle serum (Paquin) this report was afterward published in the *New York Medical Journal* of June 26, 1897 In this paper I shall endeavor to add to that report by giving my conclusions as drawn from a three years' experience with this serum I shall try to point out when to use it and when not to use it, also that it is not a specific, but a treatment of inestimable value when used in conjunction with good climate, diet, etc

A careful observer can not fail to notice that one by one the diseases which in years gone by have produced the greatest mortality are now slowly but surely yielding to science and scientific treatment This is all the more true because we are giving up empiricism for rationalism, drugs are used less and antitoxins more All of us rejoice in the antitoxin for diphtheria, and use it because the American Pediatric Society has put the stamp of approval on it, many of us use antitubercle serum (Paquin) because we have tried it and found out its value from clinical observation and by actual experience Dwelling as I do in a winter resort for consumptives, naturally I see a great many cases each year Since beginning the practice of medicine at Summerville, S C , I have been anxiously looking for some treatment to benefit these poor unfortunates, if not cure them Various kinds of treatment have been vaunted to the skies, but none has given me the real satisfaction that antitubercle serum (Paquin) has I have used it for three years, and during that time I have alleviated the sufferings of many, prolonged their lives and seemingly in some cases have produced cures I say seemingly, because three years is too short a time to say positively whether one has been cured or not In order to test the serum thoroughly, I used it on all cases that came into my office, irrespective of the stages In this manner I treated twenty or more, only one being in the incipiency, out of this number all but two were benefited, some being temporarily cured, others apparently cured The cases were pulmonary, laryngeal, glandular and joint, and the serum acted equally well on all It is, however, as well to know when not to use the serum as when to use it, because on its proper application depends its value From my own experience I have come to the following conclusions, viz

1 That antitubercle serum (Paquin) is nearer a specific for all kinds of tuberculosis than any other treatment

2 That it is most valuable in pure, unmixed tuberculosis, that is, tuberculosis uncomplicated with some infection

3 That it ought to be used in the pretubercular or incipient stage and in the beginning of second stage

4 That it ought not to be used with eat h

when there is a daily rise of temperature to 102 degrees

5 That given by the rectum the results are equally as good as when given hypodermically

6 That rectal injections never cause any unpleasant symptoms, as are occasionally produced hypodermically

These conclusions, as I say, are based on actual experiments in private practice, and necessarily must be of value to any one using the serum Most of us, when giving a new treatment a trial, are apt to use it on an old case as a last resort, everything else having been tried This helps neither the patient nor the treatment, perhaps it may benefit the former a little, but most assuredly injures the latter It is also of great importance for us to make an early diagnosis in all cases, and if possible to begin treatment in the pretubercular stage Each and every year many precious lives are sacrificed on the altar of physicians' carelessness in examinations No matter how slight the trouble may be, he ought to be able to locate it Our examinations should be both physical and microscopic It not infrequently happens that on physical examination we detect a lesion, and at the same time a microscopic examination of the sputum fails to show up the tubercle bacilli One examination in such a case should not suffice, we should make them at stated intervals until some positive diagnosis can be made

In tuberculosis all of us recognize a wasting disease, such being the case, we must not only endeavor to arrest or destroy the germs by antitubercle serum, but also endeavor to surround the patients with such conditions as are most conducive to convalescence I shall not dwell on this point, I only wish to call your attention to the fact that this antitubercle serum deals only with the tubercle bacilli, and that it is also necessary in addition to put the patient on flesh-producing food, tonics, and in a good climate It has been my experience that tubercular patients improve more rapidly in a low altitude than in a high, because as a rule they all have weak hearts, and the higher the altitude the more strain on the heart I shall not weary you with a detailed report of all my cases, but there are four to which I would like to call special attention

Case 1 —Young man, aged 28 First hemorrhage in October, 1897, followed by fever and night sweats Cough troublesome No appetite Came to Summerville in March, 1898 Put him on the serum treatment—rectal injections Improvement began almost immediately He was allowed to return to his home in Georgia to carry on the treatment Last reports of his condition are good Says he has never felt better in his life and weighs more than his average weight

Case 2 —Male, aged 28 years Family history good Contracted phthisis pulmonalis in February, 1895, after having been weakened by two successive attacks of grip Physical examination showed one spot on apex of right lung, and another in lower part of upper lobe of left lung, posteriorly It was a typic case, with fever, cough, night sweats, hemorrhages, etc The patient was ordered in May, 1895, to the mountains of North Carolina, where he passed the summer with little or no benefit He then came to Summerville in the autumn and remained for two months, when tuberculosis of the hip and testes developing, he was advised to go to Charleston for the purpose of having an operation performed There his testes were operated upon, but he refused to have his hip joint opened The pain in the hip had become so intense that the slightest movement in bed would cause extreme agony At my earnest request the physician in charge kindly consented to treat him with Dr Paquin's serum, and it was not very long before his hip became much improved So great was this improvement that in a few months the patient was enabled to walk without the help of crutches and with absolutely no pain In every respect he continued to improve and finally in March, 1896, he returned to Summerville There I continued the serum treatment until the hot weather set in, at which time, for numerous reasons, I stopped it Not three weeks after its discontinuance the patient developed tuberculosis of the brain, which in the space of two weeks caused his death

This case is interesting in many points First the development of tubercles in the lungs, followed by tubercles in the testes, hip and brain, also because of the marked and immediate relief furnished him by Dr Paquin's serum And lastly, because it was the only case in which I have observed alarming symptoms caused by a hypodermic injection of the serum

Case 3 —Woman, aged 35 years Family history negative Patient had suffered from repeated attacks of the grip In the last four years it was her custom to come south for the winter season An examination revealed a lesion in the upper part of the right lung, I could not say whether it was tubercular or not A careful examination of the sputa did not show tubercle bacilli There had been no improvement in health during the last three winters, so in 1897, I placed her under the serum treatment Immediately after using this serum improvement became quite noticeable, and after three months' treatment I allowed her to return home, not, however, without cautioning her to be extremely careful with herself, and for the next year to use twice a week rectal injections of Dr Paquin's serum, forty minims at a dose In March, 1898, this patient reported continued improvement

Case 4 —Male, aged 25 years Family history poor Father and sister had died of phthisis pulmonalis Patient has had a cough all his life In June 1896, he had several hemorrhages, also fever, night sweats, cough, etc On examination I found consolidation in upper part of lower lobe of left lung I immediately put him under the serum treatment, with no other medicines Very soon his hemorrhages ceased, his night sweats were arrested, and his fever left him His appetite was restored and his strength renewed Improvement continued until the summer, when the injections of serum were discontinued because of the great difficulty in keeping the serum fresh In the fall I commenced to inject him again, and since that time he has steadily improved His gain in weight is eleven pounds, and he coughs only when the atmosphere is damp and moist I advised him that he could return to his work, but that for the next year he must use the serum by rectal injections twice a week This case is worthy of observation, because of such a brilliant and successful result in one who so strongly inherited a predisposition to tuberculosis

April, 1898 —During the past winter he has coughed a great deal, owing to a discontinuance of the serum contrary to my advice, but is now better and at work again, having resumed the serum treatment

Finally, I want to say again that another year's experience with antitubercle serum (Paquin) has convinced me more than ever of its merits, and I feel sure that after giving it a fair trial you will likewise be convinced

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THE STUDY OF MATERIA MEDICA AND THERAPEUTICS

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo,
June 7-10 1898

BY HENRY M BRACKEN, M D
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MINNEAPOLIS

My views upon the subject were given under this title in the *New York Medical Journal,* May 2, 1896 Some points set forth will be emphasized in this paper The object of study is twofold first, to train the mind, second, to give the student knowledge that he can make practical use of In this age of utilitarianism, the first object is often lost sight of Teachers of medicine and surgery may even speak of the study of materia medica as useless Their opinion is based upon the fact that the older one is in the practice of his profession the smaller will be his list of therapeutic agents They argue that a student will pick up the necessary knowledge relating to important drugs, in connection with his clinical studies This is certainly a mistake The best therapeutists are men who are thinkers, not machines The practitioner who uses a therapeutic agent because he was trained to do so by his clinical teacher in his student days, will soon become a back number The agent may have been the best of its kind in his student days, but the rapid progress that is now possible in therapeutic knowledge may soon displace supposed valuable products by others which prove themselves of greater value Therapeutic knowledge is becoming more exact each year, and this is due largely to the work of the pathologist and the physiologist

There are three methods of teaching materia medica by lectures in the pharmaceutical laboratory, in the physiological laboratory It is quite common for a school to adopt one or the other of these three methods, to the exclusion of the other two This is a mistake No student should commence the study of materia medica unless he has had at least a year's work in chemistry and physiology This would prepare him to understand the terms that are in constant use in the study of drugs The lecture room is the place to begin the study of materia medica The process here is one of general instruction, of bringing together the important chemic, physiologic and pharmaceutic facts Drugs that have little value can be described briefly by the lecturer, and then receive but little further consideration by the students—possibly never be thought of again, or possibly be brought out and used to good purpose at some future opportune moment The important drugs should be given due prominence by the lecturer It would be hard for the student to grasp the necessary points connected with the study of drugs were he to depend upon his own judgment, but a few words from the lecturer should make the way clear to him Without such help the student would have to wade through a mass of material, and would be unable to separate the wheat from the chaff For example consider the study of opium Without a guide a student would be thoroughly confused by the number of active principles and pharmaceutic preparations Let the lecturer go over this subject with his class, drawing attention to the fact that a knowledge of a few of these preparations is quite sufficient, that, in fact, it would be no great loss if one knew nothing of the opium preparations, provided his knowledge of morphin was accurate The use of any opium preparation is to secure the action of morphin, so that direct dosage with morphin should be more satisfactory in every way than the use of opium in any form So also with the preparation of iron The uncertainty as to the true therapeutic explanation of the action of iron, together with other bases for theories, has been an excuse for introducing a remarkable list of preparations, official and non-official The student is quite embarrassed by this display of titles A few words from the lecturer, however, may reduce this confusion of the iron preparations to a few simple principles—stability, local action, remote action, etc —and thus make the actual knowledge required an easy matter All these points are as easily given, by lecture, to a room full of students as to small sections of a class There is also a great saving of labor by this method The lecturer thus paves the way for the laboratory instruction In laboratory instruction, pharmaceutic work should be taken up first This should be taught by a medical man with a pharmaceutic training, rather than by a pharmacist with a medical training, otherwise the pharmaceutic knowledge imparted to medical students is apt to be overdone The teaching should be most practical The course must necessarily be short, for there are many other important things to take the student's time The medical student does not need to be a pharmacist, but he must have sufficient pharmaceutic knowledge to enable him to write prescriptions intelligently

After the pharmaceutic training, the student is ready for the physiologic laboratory, where he may study drug action This should be the most interesting part of his work in materia medica It is the most difficult part for the instructor The work must be done by the class in small sections The experiments, even in the hands of trained men, are often failures, for one reason or another This work often takes a great deal of time and yields very poor return from the student's standpoint The study of the physiologic action of drugs is by no means a simple task, and it is an open question whether it might not be better for the general medical student to accept the conclusions of some eminent physiologist, as to the physiologic action of drugs, rather than try to demonstrate such action for himself It is a question whether the study of drugs in the physiologic laboratory should not be limited to demonstrations, by the instructor, of a few important truths It certainly is a question whether the student's individual work along this line should not be classed with the advanced work of the senior year, if taken up at all He may then be able to apply his combined student's knowledge to the task before him It is even a question whether the special physiologic laboratory study of drugs should not be made an elective course, so that only those who have a special liking for such work would take it up

Thus we have the work of the lecturer and of the laboratory instructor combined The lecturer is an educator in the broadest sense, the laboratory instructor is a practical demonstrator, more important, in a way, than the lecturer, but more restricted in his work

The student is now prepared to take up his work in therapeutics This naturally comes in the third year of a four years' course Therapeutic agents are best studied first in groups, according to action, as anodynes, antipyretics, analgesics, etc The demand for a therapeutic agent naturally suggests one of these groups In each group there will probably be but three or four important therapeutic agents The student learns naturally, through this arrangement, to eliminate those that are unimportant At the same time, a little reasoning will enable him to appreciate the advantages one agent may have over another of the same group, in any given case It will also prepare him for the necessity, which sometimes arises, of changing from one agent to another of the same group, under certain conditions, in order to secure the best drug effect, and at the same time, to avoid establishing either a drug tolerance or a drug habit When the student learns his therapeutics in this way, he will have little inclination to become a prescription copyist, and his tendency will [illegible] he writing of simple prescriptions, r[illegible] polypharmacy In this system [illegible] peutics, it becomes unnecessary [illegible] devote time to the therapeutics of each and every drug separately He gives, in common, the points to the whole group, and then points out the advantages and disadvantages, the importance or the uselessness, of each agent in the group Naturally, he would devote a considerable time to the therapeutic properties of the important agents In connection with this course, the student must become familiar with prescribing Three methods of using drugs are now in vogue the hypodermatic method, the bedside dispensing of drugs, the use of prescriptions The student would readily become familiar with the first and second methods The third method is a little more difficult to follow Instructions should, therefore, be given in prescription writing, drawing attention, not only to the action of drugs prescribed, but to the form of prescription, compatibility of parts, both chemically and physiologically, and last, but not least, if the prescription is for internal use, its palatabilty This work should place the student in good form for his duties at the bedside

The work that I have so far outlined, as belonging to therapeutics, should occupy time extending through the third year of a four years' medical course In the senior, or fourth year, the work in therapeutics should be continued, but along very different lines from those pursued during the previous year's study There should now be an application of the knowledge which the student has already acquired The therapeutic teaching should be connected with clinical work It is not enough to study a case simply to arrive at a diagnosis That may satisfy the physician's curiosity, but it will not satisfy the patient Something must be done to cure the patient, if possible If this is not possible, it is at least necessary to do all in one's power to guard against complications, to pilot the patient through to a safe termination of his troubles, or to at least produce euthanasia when dealing with those cases where death is the only ending for suffering There are nihilists in therapeutics, but these are men who are not willing to consider the comforts of their patients We should take great pains not to have any therapeutic nihilists among our students The instructor in therapeutics for this final work should be a clinical teacher, one who appreciates the points I have just referred to as bearing upon the comfort of his patients

I have thus outlined the teaching of materia medica and therapeutics to extend over a period of three years This has not been with the purpose of loading a great deal of work upon the medical student, but rather of giving him a little at a time, in order that he may understand the subject thoroughly The work could be done in one year, as far as time is concerned, but it would then be simply a process of cramming, and the results could not possibly be satisfactory

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SOME PREPARATIONS OF THE NATIONAL FORMULARY

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY C LEWIS DIEHL, PH M

LOUISVILLE, KY

At the meeting of this ASSOCIATION in 1893 I had the honor to read a paper[1] before this Section, in which I outlined some of the conditions that have had marked influence upon the practice of pharmacy in its relation to that of medicine I pointed out that the modern practice of prescribing medicaments of special manufacture had become a burden upon the pharmacist which, if not relieved, would surely end disastrously to those who, adhering to the ancient landmarks, strove to supply their patrons with medicaments of their own manufacture or of generally recognized and officially accepted composition Indeed, the thought has impressed itself more and more upon my mind, that if physicians had entered into a conspiracy to drive the educated and qualified pharmacist out of business, they could not have pursued a more certain method than that which has become a common practice during the last decade In my personal experience, drugs, chemicals and pharmaceutical preparations which were considered indispensable under the older practice now remain unused on the shelves or become ruined before they can be disposed of, and this in face of the fact that these same drugs, chemicals or preparations are the component parts of, or are represented by, the preparations of special manufacture now popularly prescribed

So simple a drug as gentian root is made into a palatable and sightly preparation by the aid of some aromatics, wine and glycerin, and, with the assurance of the manufacturer that it has taken years of study to perfect the formula, it is at once successfully launched into popular favor among prescribers, and takes the place of old and well known preparations over which the new one possesses no tangible advantage But a more serious manifestation obtrudes itself as a consequence of the modern practice Formerly the physician, confining his prescription to drugs, chemicals and preparations of officially recognized quality and composition, knew exactly what he was prescribing and the patient accepted his prescription without inquiry Now, the patient is familiar with the name or title of the medicament that is being prescribed for him, and is more than likely to ask for it without prescription, while neither he nor the physician has a true knowledge of its composition, for such knowledge is in most instances based upon more or less obscure or misleading statements borne upon the label or upon the circular accompanying the preparation

Under these conditions it is not to be wondered that the purely commercial element has overwhelmingly gained ascendency in the practice of pharmacy and that the professionally inclined are largely in the minority, I was about to say hopelessly so, but I am unwilling to concede that I have occasionally met with the statement that, as applied to politics, the minority is always in the right However this may be of politics, I am not sure that it applies with like force to the revolution that has invaded the practice of pharmacy, but I do believe that, with persistent effort, and with the aid of thinking men in the medical profession, the minority will eventually lead the majority into channels in which the commercial shall be subservient to the scientific and professional qualifications Among these efforts perhaps the most important is the successful introduction of authoritative formulas for the preparations that are now popularly prescribed, and the acceptance by physicians of the preparations made in accordance with such formulas by reputable pharmacists everywhere This has been the aim of the American Pharmaceutical Association in compiling and issuing the "National Formulary," a work which has been completely revised since the date of my paper initially referred to, and which has in some degree at least met with recognition by the medical profession. In fact, in some localities, where its merits have been properly presented to physicians, it has been accepted as authoritative for many preparations to replace those of special manufacture, and as the work becomes better known its usefulness will doubtless be extended. In furtherance of this object, and with the hope that the work may become more generally known and appreciated by prescribers, I therefore venture to again call the attention of the AMERICAN MEDICAL ASSOCIATION to the "National Formulary," illustrating its utility and scope by brief comments on a few preparations that seem to merit attention and to serve as types of the general contents.

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[1] "The National Formulary" Read by invitation in the Section on Materia Medica and Pharmacy at the Forty fourth Annual Meeting of the American Medical Association

With a list of eighty-six formulas for elixirs, forty-seven for syrups and forty four for liquors, one should consider the ground of modern so called elegant pharmacy pretty well covered but the list utterly falls short of the number which enterprising individuals have succeeded in introducing to the notice of practitioners of medicine, and which must be kept in stock in a modern pharmacy. The difference between the one and another is in many cases that between "tweedle dee and tweedle dum," the selection by the prescriber being quite as much due to convenience or whim, and in neither case justified, when the identical components on the shelves of every properly appointed pharmacy may expeditiously be compounded into a palatable and acceptable preparation. It is true that to construct his own formulas will put the prescriber to some inconvenience! In some cases he will probably be compelled to consult with his neighboring pharmacist so that the resultant prescription may be sightly and palatable as well as efficient. But the trouble is well worth the taking, for his results in the treatment of disease will be based entirely upon his own selection of the medicament instead of, as is too frequently the case, upon that of the manufacturer. If then, the prescription having become established to his satisfaction, the physician will take the trouble to write out the components when prescribing, he can reasonably hope to have his prescription prepared acceptably at any respectable pharmacy, or in case the formula is too lengthy and circumstantial, its publication in some of the numerous medical and pharmaceutical journals will make it public property, as it should be, and the preparation may then be prescribed under a selected title. Unfortunately the practice has gained ground modernly that formulas constructed under the conditions named are being withheld from publicity and a new child is thus born to enrich the modern materia medica, in most instances under a coined name and with the corner druggist as its sponsor.

It would necessitate a far more lengthy paper than is contemplated or useful at this time to go into details concerning the composition of the preparations of the "Formulary," for these details mainly concern the operator to whom the compounding is entrusted. The prescriber, however, should fully understand that the operations involved are in most instances of the simplest character, the formulas are constructed on simple lines, and the directions are given in terse diction and with such precision that the merest tyro, so long as he has the ability to weigh and measure correctly, can follow them to a satisfactory end. It is otherwise, however, when the exigency for a new formula arises, whether it be for the purpose of simply combining an additional medicament with a preparation already made, or whether it be with the object of exhibiting one or more medicinal agents in a more acceptable form. Here a thorough knowledge of compatibles, both in a chemical and physical sense, is necessary, and the opportunity arises for consultation between the prescriber and the pharmacist. Take, for example, Elixir of Ammonium Valerianate (Formula No. 33.). It is important that this should be perfectly neutral or slightly alkalin, so that the odor of valerianic acid may be completely overcome. Properly prepared, it may be combined with any neutral or basic medicament without impairing its quality, but if we were to add an acid substance, the odor of valerian would be immediately developed and the utility of the preparation impaired. Again, the finished preparation may require the presence of a free acid, for example, the Compound Digestive Elixir (Formula No. 59.). This preparation containing both lactic and hydrochloric acid in a free state, it will not do to combine it with basic or alkalin substances, though neutral or acid compounds are perfectly compatible. In other cases the judgment involved may concern the physical character, such as taste and odor only, an example of which is the Compound Cathartic Elixir (Formula No. 45.). In this we have the problem before us to make a palatable preparation from a number of bad-tasting or malodorous drugs, such as senna, mayapple, leptandra, jalap, etc., which is successfully solved by the judicious use of the Elixir of Taraxacum (Formula No. 111) and of Elixir Glycyrrhiza (Formula No. 76). Numerous other examples might be cited, but sufficient has been said to point out how the physician and pharmacist, with the material provided in the "Formulary," may acceptably produce almost any combination that may be desirable.

The "Formulary" also commends itself on the score of economy. Many of the preparations can be made extemporaneously, or at short notice, with such materials as are on the shelves of every well appointed pharmacy, there being only a list of ten preparations—in themselves inexpensive—which for the convenient preparation of the others are advised to be kept in stock. This facility to make palatable preparations at short notice also commends itself on the ground that they will reach the patient in an absolutely fresh condition, and particularly so in the case of two classes of preparations—the "Emulsions" and the "Effervescent Powders." Possibly both of these have had their day, for they are not prescribed with nearly the frequency they were formerly. But for that very reason it is desirable that the pharmacist should be placed in position to dispense them in a fresh condition, since both of these classes of preparation rapidly undergo change and become unfit for use, and being usually dispensed in original containers and under seal, it becomes practically impossible to insure their quality. The "Formulary" makes excellent provision for both. With regard to

Emulsions, it observes that "the successful formation of emulsions, whether of fixed or volatile oils, is most successfully and expeditiously accomplished with acacia as the emulsifying agent." Hence, preference is given to acacia, though other emulsifying agents, such as mucilage of Irish moss, mucilage of dextrin, glycerite of egg and tincture of quillaya, are not ignored, their use and application being exemplified in a number of alternative formulas for preparing Emulsion of Cod Liver Oil. The directions given are so plain and explicit that they may be readily followed by the operator with assurance of the production of an emulsion containing 50 per cent by volume of the oil, together with such other medicinal ingredients, hypophosphites, flavoring, etc , as it may be desirable to incorporate In the case of "Acacia Emulsion" the amount of the acacia need not exceed 12 per cent , while the emulsification is as perfect as in the best emulsions of the market, and far more so than is the case with the most of them Good, pure material is easily obtained in the market, and will certainly be supplied by the pharmacist if the physician will take the trouble to make the demand for the pharmacist's rather than for the manufacturer's product As to

Effervescent powders, the "Formulary" maintains that they are most conveniently and efficiently dispensed in the form of *fine powder*, because in this condition they can be made extemporaneously and with an assurance of their freshness and efficiency The popular demand for "Granular Effervescent Powders," however, is not ignored, and formulas are given for their preparation under modifications which are important only in so far as they enable the dispenser to granulate the powder in a convenient and expeditious manner But the granulation of the powder is admissible only if it is contemplated to prepare the effervescent preparation for stock, and the liability of such to deteriorate on keeping, being the same as that of manufactured effervescents, should prompt the physician to discourage their use, by confining his prescription to extemporaneously prepared effervescents *in fine powder* The latter can be made as quickly as any prescription that requires the admixture of several powders To make the plain (non-medicated) effervescent powder, two stock powders, the one composed of sodium bicarbonate and sugar (Saccharated Sodium Bicarbonate, Formula No 341), the other of tartaric acid and sugar (Saccharated Tartaric Acid, Formula No [illegible]8), are mixed in equal quantities by weight, the proportions of acid to sugar and of alkali to sugar being such that, weight for weight, the two powders represent molecular proportions, and when so mixed form a neutral solution Both of these powders, when made from dry and anhydrous material will keep indefinitely, but may be prepared expeditiously if not in stock The medicinal agent having been weighed and finally pulverized if necessary, with a small portion of the plain effervescent powder, a sufficient quantity of the latter is then incorporated to make four grams for each dose contemplated, and the resultant powder may then be dispensed in bulk, to be given in doses of a teaspoonful, or, better, divided into doses of sixty grains, each dose to be enveloped in wax paper Obviously, any desired medicinal combination of dry, soluble substances can be thus prescribed, a typic prescription being as follows

℞ Citrated caffein 12 gr
Lithium citrate 24 gr
Saccharated tartaric acid (N F)
Saccharated sodium bicarbonate (N F) āā 3 dr
Mix intimately and dispense in twelve equal parts (or in bulk) each enclosed in wax paper

The advantages resulting from the practice of so prescribing are

Accuracy, because the composition is determined by the prescription

Celerity, because the prescription can be prepared from stock at hand, and there is no delay in searching the market for a specialty

Efficiency, because the medicine is freshly prepared

Economy, because the prescription need not exceed a single dose, and there is no loss from deterioration But not the least of the advantages to be gained from this practice is that the physician and pharmacist are kept in touch with each other, instead of—as is inevitably the case under modern practices—drifting asunder

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THE PONS ASINORUM OF THERAPEUTICS

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo , June 7 10 1898

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In the fifteenth century one Johannes Buridan published a treatise which he called the *Summula de Dialectica* and set forth to the public that it would enable any person, however stupid, to easily and rapidly discover the "middle terms" for syllogisms On the strength of this claim it came to be known as the *pons asinorum* or bridge for what our Colorado friends call "burros "[1] At a later date the fifth theorem of the first book of Euclid came to bear the same title, and still later the forty-seventh proposition of the same book bore this name because they enabled dull students to master otherwise very difficult problems In modern parlance a *pons asinorum* is a bridge over a mental difficulty that enables ordinary mortals to cross Geniuses can, of course, get over without such aid In using it in therapeutics the writer denies any intention of intimating that there are any members of the medical profession whom he feels justified in cataloging as belonging to the genus *Equus*, species *asinus* We merely use it for the purpose of forcibly indicating the sad need of such a bridge at this point of medical progress Without it we have the choice of resting entirely in a fool's paradise, taking wings and soaring with the geniuses over the muddy stream of ignorance or remaining mental grallatores' floundering in the deep waters of that practically unfordable stream It is not the first time in the history of science that such alternatives have been placed before mankind As a rule the majority prefer to remain within the fool's paradise The subjective method of the metaphysician is much more congenial than the experimental, objective method of getting at truth or what the world considers truth In therapeutics we are all as anxious to discover a law of cure as were the alchemists to discover the elixir of life, but we of the regular school prefer the inductive, slow method of chemistry to the wild dreams of alchemy Any pretended therapeutic law that fails to come down to the bed-rock of cause is a mere hallucination When we can trace by cause and effect exactly how remedies produce their results, then and not till then will we have a true law of cure We are already sufficiently far advanced to see the way in which it is likely to be found and to observe where our pons to it is being built The caissons have already been sunk through the muddy bed of ignorance, and we shall soon see its graceful arch spanning the stream below In this essay the author hopes to be able to show 1 That all effective therapeutic measures are preventive ones, depending almost wholly on our ability to make a correct diagnosis 2 That our present paucity in successful results is due to defective diagnosis 3 That we cannot overcome this defect, so far as the great majority of medical men is concerned, until we are supplied with a binomial or trinomial nomenclature of diseases

The therapeutic bridge we need is a scientific system of naming diseases so that the average medical man will be able to know what he is trying to get rid of by the remedies he uses Our present lack of system is a sad hotchpotch, that if merely useless might be tolerated, but that being positively misleading should be consigned to oblivion as quickly as possible In medical matters we stand today precisely where botanists and zoölogists stood before the immortal work of Linneus was accomplished Our confusion is as great as theirs was and our gain from a similar revolution would be far greater Now is the time for us to inquire "where we are at" and try to get order out of the awful chaos that surrounds us If something is not done soon, we will all be constrained with Cicero to exclaim, "*O dii immortales! ubinam gentium sumus?*" (Ye immortal gods! where in the world are we?)[2]

The number of causes capable of producing bodily ailments is infinite Fortunately there is a natural grouping by which it is possible to place them all in a few convenient classes Some are due to mechanical, some to chemic and some to biologic (usually microbial) injuries If we add to these causes those due to errors of development, we will probably have covered every possible form In consonance with this grouping of causes there can be a corresponding grouping of effects, thus enabling us to have what we are pleased to call distinct diseases There are in reality no such things as distinct diseases Disease in all its protean forms is but the resultant effects of a multitude of causes, being resisted by the organism As effects often mimic each other, it is never possible for us to be absolutely sure of the nature of any disease until we have discovered its exact causes The first step toward a rational course of treatment is the step that leads us toward knowing what we have to treat Until we discover that, what we happen to do is little better than blind guess-work

To make clear our meaning consider for a moment two illustrations Suppose we go home and find our window broken and go in search of the cause of the break It may have been the wind, it may have been a stone, or it may have been any one of a multitude of causes To discover that it was done with a stone does not in any way help us toward a knowledge of how to mend it In cases of this kind a knowledge of the cause of the disease or damage does not help us to a knowledge of the remedy required Now let us change our supposition a little , Instead of a broken window let us choose broken ice on a skating pond Being anxious to see that pond frozen over we look out upon it from time to time on a cold winter's day and each time discover a huge hole at the same point on its surface We go out near it in order to discover the cause and find that it was being pelted with stones No sooner was new ice formed than it was broken again by a large stone being thrown through it To discover the cause in this instance is to discover how to remedy the evil As soon as we stop the stone-throwing the break closes

Here we have a case of cause and effect exactly like those with which physicians have to deal The same class of forces can operate to damage organisms as operate to damage ice, and the process of mending, healing or curing is exactly analogous in both instances Observe here that the mending in the one case and the curing in the other is accomplished by inherent forces All that we can do in either instance is to remove some continuously operating cause or causes and then nature does the rest In the case of the broken ice a cure of the evil occurs when we stop the stone throwing In the case of our patient the cure occurs when we stop the action of the damaging force The ice can cure itself by freezing so fast that between the intervals of stone-throwing it becomes thick enough to resist the blow The body can cure itself if its repairing forces work with sufficient vigor to render nugatory the attacking causes Both the human body and the ice do their own repairing of damage always We can only remove the obstruction and overcome the causes that hinder their inherent activities Whenever any cause interferes with the development of a clear crystal of ice or a pure healthy body that cause must be removed or no cure is possible Sometimes many causes may be at work simultaneously damaging the ice or damaging the body and then all of the morbid causes must be removed before nature can assert herself by a cure At other times different damaging causes may succeed each other, the first, second and third having disappeared and a fourth having come in to keep up the mischief In the case of the ice a succession of stones may have been succeeded by a fire and this again by sulphuric acid All of these may have done their share toward damaging the ice until finally a mass of salt may have been placed upon it To cure the damage it will do no good to remove the spent stones, the extinguished fire or the saturated acid We must know that there is fresh salt there and remove it Thus it is in the body The first injurious cause may have gone when we are using remedies for it It is necessary to know the cause now acting and seek to remove it If we find a person being burnt we can extinguish the flames If we find that acid has been thrown upon him we can stay its ravages by removing it or neutralizing it When there is no longer any fire or acid present we must see that the damaging air does not affect the wound and when this is looked after we turn our attention to the invading bacteria so as to arrest their destructive work

The kind of microbes that invade the wound may have an important bearing upon the healing of the wound To successfully treat each case we must know the kinds that invade it All obstructions to the proper healing of the body must be discovered and a way found for their removal, otherwise we will continually keep failing to cure our patients Where we do not know the causes we can not hope to be always remove them An accidental discov in some cases give us a method, but as a ru grope in the dark until the causes have ered In the majority of such cases we lea ter to nature and then take to ourselves t' doing the work We speak of some remedies as "almost specifics," because they succeed in a large proportion of cases and in a way that leaves no doubt of their efficiency The writer believes that where such remedies fail other causes than the one thought responsible are at the bottom of the failure If we knew how to overcome these unknown causes that lead to failure we would be successful every time When we give quinin in malaria, mercury in syphilis and serums in their respective diseases their failure is due to the presence of causes that they were never intended to treat All successful medication is preventive medication Prophylaxis is the very soul of cure in every form of sickness When we give quinin we kill the plasmodiums and prevent a new attack of the malaria When we give diphtheria antitoxin we produce conditions unfavorable to the Klebs-Loeffler bacillus and so prevent a continued attack of the diphtheria When we give a cathartic we force toxic substances out of the body and prevent auto intoxication When we can not get at the root of a disease we are content to attack and prevent the evil consequences likely to flow from some dangerous symptom By thus being able to, as it were, lop off the tentacles of the disease we often cripple or destroy it as a dangerous enemy of the patient Where sleeplessness is leading toward death, by the use of sulphonal or morphin we prevent this much of the disease from developing We obviate the serious outcome The deeper down our prophylactic measures can be carried among the bad symptoms the more likely are we to save our patients To know how to prevent a tetanic spasm is not as good as to know how to antidote the poison of tetanus but it is well to be able to accomplish the lesser feat when for any reason we can not do the greater There is no breach in continuity between sanitation and treatment The aim and method of the one is the aim and method of the other The method of each is summed up in the one word "prevent" To give drugs for any other purpose than the preventing of untoward effects is foolish Beneficial symptoms should be let alone or encouraged It is therefore important for the physician to be able to tell what symptoms of a disease are beneficial and what damaging Grave blunders are committed by not knowing which to encourage, which to let alone and which to oppose

The one important duty of the physician always is to fight or remove everything that he is sure is leading his patient toward a disastrous termination of the disease He must at all times be on the alert for causes of evil and in their succession the deeper he can go the better will be his results in all kinds of cases Skill in diagnosis is imperative, whether the inquiry relates to a baneful symptom or a specific cause To give remedies that have been recommended for diphtheria, pneumonia, nephritis, mumps or measles because we have concluded that these are the ailments from which our patients suffer may by a sheer lucky hit be what they need, but the chances are very many against us in the matter Superficial diagnosis, that knows no more about these diseases than is implied in the ability to give them these names, is wholly inadequate as an aid to proper treatment Much more must be known, and the idea that disease is an entity, which our present nomenclature fosters, must be destroyed An examination of the present trend of bacteriologic discovery will help us to a clearer conception of what is here meant and perhaps illuminate the subject in a number of important directions

Let us for a moment consider the bearings of the fact that adaptation is a fundamental law of life A study of the distribution of plants and animals throughout the globe shows us that the leading factor in placing them where we find them has been fitness Water plants and water animals can not live in dry places while plants and animals able to live in dry places can not, as a rule, thrive well in wet places The same is true for extremes of heat and cold, richness and poverty of soil, sunlight and shade, windiness and calm, with all other extremes of telluric conditions Between the extremes of adaptation are all possible intermediate degrees The range, too, of all plants and animals varies widely in extent in every environment Some have a very wide range and others are restricted What is true of the gross fauna and flora of the earth is equally true of the microscopic The latter, like the former, develop vigorously where adapted, not at all where wholly unadapted and with intermediate degrees of vigor amid intermediate degrees of fitness Microbes that are classed as non pathogenic are such as are unable to spread to a damaging degree within the tissues of the body or such as are unable to produce poisonous substances within the body to its detriment Pathogenic microbes produce poisonous substances or multiply within the body in a way that is injurious to it They bear a similar relation to the body that weeds do to a garden While there may be parts of the body that can resist their development, other parts are more favorable to them, permitting of their development A given microbe may be able to develop in the lungs but not in the spleen Another may find a favorable place of development in certain glands but be unable to multiply in the meninges To some extent there is certainly reason to believe that most tissues have some degree of protection from some forms of disease germs To hold, however, as many have done in the past and as some seem to do now, that but one kind of disease microbe is capable of developing in the kidneys, another in the brain, another in the spleen, another in the liver, another in the bones, another in the heart, another in the lungs, etc, seems extremely absurd

The final settlement of the question regarding which microbes are capable of developing to a dangerous extent in the lungs and which in the liver or other organ must be arrived at by actual experiment Analogy and probability seem now to lead to the conclusion that there are many pathogenic microbes capable of development in dangerous numbers in any one of all the tissues and organs of the body if they can only gain access to the same in any manner It does not seem reasonable to think that nature should have given a monopoly of the lungs to some one kind of coccus, of Peyer's patches to a single kind of bacillus or of the liver or intestines to a single kind of spirillum It is much more reasonable to believe that soil that will grow one kind of plant is likely to be able to grow many kinds It would, indeed, be a singular plot of ground that, while containing many patches of differing soils, could only grow one solitary kind of plant on each kind of soil Imagine if you can such a plot In it the potato corner could grow neither peas, onions, weeds nor other plants, the pea patch could grow nothing but peas, and the onion region would be an inhospitable home for anything but onions Is not such a supposition absurd on its face, and yet it is no more absurd than the assumption that meningitis is due to but one kind of microbe which by diligent search is going to be discovered some day. Is it not much more reasonable to think that there are twenty or more kinds of germs capable of producing meningitis? To us it would not be at all surprising if future investigation should show that there are twenty or more kinds of pneumonia, hepatitis, meningitis, cystitis, enteritis, tonsillitis, carditis, gastritis, nephritis, etc. Is it not also quite reasonable to suppose that the cause of the pathologic condition in any one of these may be the cause in many of them? In other words, may not the nephritis of one patient have the same specific cause as the meningitis of another, the pneumonia of another and the carditis of another? If more than one kind can develop in the same region at the same time may not two or more kinds of microbes combine at various times to produce conditions of disease very like those produced by only one? Again, as microbes are known to have a sort of succession among themselves, may it not be possible that in some diseases the latter symptoms are due to a different set of germs from those at the beginning? All of these questions can only be finally answered by an appeal to nature.

Now let us inquire about the facts in the case as developed by bacteriologic investigation up to the present time. Dr. Kanthack, the pathologist of St. Bartholomew's Hospital, London, in Allbut's System of Medicine says that "undoubtedly the same morbid lesion may be produced by several different micro-organisms." "Strictly speaking, then, there is no specific organism of infective endocarditis; any one of a number of cocci may produce a disease, bacteriologically different from, but anatomically, pathologically and clinically identical with that produced by another member of the same group of organisms. Similarly, suppuration may be produced by any one of a large number of bacteria, and in the malady clinically recognized as erysipelas, instead of the streptococcus of erysipelas, other organisms may often be found. Septicemia and pyemia, again, may be produced by more than one kind of bacterium, and the same applies to pneumonia."[3] To these words there is no uncertain sound, although the author of them still clings to the belief that some kinds of germs are specific. It is always in regions of ignorance that old expiring notions take their final refuge. There are diseases of which we know little that may appear to possess the old quality known as specific and that we will have to consider such till we know more about them. Phthisis pulmonalis was at one time deemed a specific disease, but Koch's discovery of the tubercle bacillus showed it to be but a single form of tuberculosis. We now know that there is tuberculosis of the lungs, tuberculosis of the brain, tuberculosis of the skin, tuberculosis of the bones, and tuberculosis of almost every part of the body. If we consider the group of symptoms, including the lesions, as the disease then there can be no such specific disease as tuberculosis. It is only by claiming that the presence of the bacillus gives it a specific character that we are able to maintain such a position, but that would make every disease specific in a similar sense.

Dr. S. Flexner tells us that phthisis pulmonalis, or a disease with all of its symptoms, exists, in which there are no tubercle bacilli. In it we find a streptothrix instead.[4] Prof. Edgar M. Crookshank has pointed out that many of the lesions of actinomycosis and those of tuberculosis are alike.[5] Dr. Karowski of Berlin says the early stages of actinomycosis and of tuberculous phthisis require a bacteriologic examination to be sure of their difference.[6] Dr. A. Gouget reports a pseudo tuberculosis of the spleen, liver, kidneys and other organs due to a streptobacillus and not to Koch's bacillus.[7] On the other hand, Dr. J. W. Moore tells us that the tubercle bacillus can cause pneumonia.[8] With this last named, so called disease we have abundant evidence to show that it has a multitude of causes. In the paper of Dr. Moore we learn that pneumonia is caused by the microbes of erysipelas, influenza, typhoid fever, tuberculosis, diphtheria and anthrax. Dr. Peter of Paris sustains this claim of there being an erysipelas of the lungs that we class as pneumonia.[9] Drs. Flexner and Anderson have also shown that diphtheria of the lungs is a pneumonia.[10] Wright and Stokes reported that in nineteen cases of bronchopneumonia the diphtheria bacillus was present.[11] Constanzo Zenoni reports cases of pneumonia due to a streptococcus.[12] Flugge gives Friedlander's bacillus as a common cause of pneumonia.[13] Dr. Moore gives evidence that typhoid fever of the lungs is pneumonia. He holds that in such cases the bacillus of Eberth gains entrance through the lungs as the initial lesion of the disease.[14] Whitelegge tells us that Friedlander's micrococcus, Fraenkel's diplococcus and Klein's bacillus have all been, on apparently conclusive evidence, established as causes of pneumonia.[15] Palamidessi *of Florence reports* cases of pneumonia from a micro-organism resembling those of fowl cholera and which was imported with parrots.[16]

It is apparent from the evidence now in our possession that typhoid fever is as protean in its forms as is tuberculosis or pneumonia. A number of cases have been studied that give evidence of the power of the typhoid germ to attack the body through various channels when there are no evidences of intestinal lesions. Dr. Keen reports cases of meningitis, pleurisy, goiter, hepatitis, pneumonia, and other affections occurring as sequels of typhoid fever, and others as occurring when there were no typhoid lesions in the intestines, but the typhoid germs were present in the organs affected.[17] An editorial note in the *Medical Press* reports five cases of typhoid infection without typhoid lesions.[18] Dr. Taty describes a case of melancholia with mental alienation of a double form due to typhoid germs.[19] Drs. Flexner and Harris describe experiments and cases of typhoid infection without typhoid lesions.[20] These authors also quote the evidence of DuCazal,[21] Kühnau,[22] Guinon,[23] Pick,[24] and especially Chiari and Krous,[25] as bearing in the same direction. Keen mentions the fact that pure typhoid cultures have been prepared from points of suppuration in many parts of the body.[26] The same author refers to cases of mumps as due to the typhoid infection[27] and of diseases of the bones as having the same cause.[28] Gasser describes a case of orchitis due to typhoid infection,[29] and Girode gives evidence of epididymitis having occurred from the same cause.[30] DuCazal and others have secured pure cultures of the typhoid bacillus from the spleen when there were no intestinal lesions.[31] In this connection it is interesting to learn that in a case of Dr. R. D. Mason's where the patient had swallowed some lemon seeds an[illegible] sprouted in the intestines, the sy[illegible] were like those of typhoid fever.[32] [illegible] that other things than the typhoid ge[illegible] characteristic symptoms of typhoid fever, and that the typhoid germs sometimes produce symptoms not at all characteristic of typhoid fever as usually recognized.

If we turn next to as apparently specific a disease as gonorrhea, every physician knows the danger to the eyes of the newborn by infection with the coccus of this filthy affection, and now Dr. F. R. Hagner tells us that he has found cases of arthritis and tenosynovitis giving cultures of gonococcus.[33] In catarrhal conjunctivitis Dr. Gifford found that in an epidemic in Omaha, Neb., and surrounding country Fraenkel's pneumococcus was the cause, while in another in New York which he had had experience with a wholly different microbe was the cause.[34]

The discovery of the Klebs-Löffler bacillus and the study of its characteristics have within a short time completely altered our conceptions concerning diphtheria. Now there are cases, which a few years ago would not have been considered as even related to diphtheria, that are classed with that disease, and a number of anginal affections that we called diphtheria are now excluded from such recognition.[35] Dr. W. P. Herringham of St. Bartholomew's Hospital, London, says that "it must be remembered that membranes, produced by other bacteria besides the diphtheria bacilli, may appear in the throat, and that in many cases the clinical phenomena prove to be of but little assistance, a careful bacteriologic examination is therefore required."[36] Anders tells us that "diphtheria may exhibit a number of variations as regards the seat of attack and the severity of the poisoning." He mentions nasal diphtheria, wound diphtheria of lips, tongue, vulva or glans penis, laryngeal diphtheria, etc.[37] S. Gee refers to latent diphtheria, in which the poisoning occurs without the appearance of a membrane of any kind.[38]

Turning now to meningitis, we learn from the last report of the Massachusetts State Board of Health that in ten cases examined they found it due to the pneumococcus, in eight cases to streptococcus, in twelve cases to tubercle bacilli and in one case to anthrax.[39] Dr. J. A. Ormerod says that in some cases of purulent meningitis there has been found a micrococcus, in others the ordinary streptococcus pyogenes, and where the meningitis occurs "in connection with some acute infectious disease, such as typhoid, the organism proper to that disease."[40] If we next consider endocarditis we find the same state of affairs. Dr. Julius Dreschfeld, Professor of Medicine in Owens College, Victoria University, tells us that in most cases of this disease only one kind of organism was found in each case, but that they vary in kind for different cases. The organisms that have been found in this disease have been in some cases streptococcus pyogenes, in others streptococcus of erysipelas, in still others staphylococcus pyogenes aureus, and thus through different cases were found the pneumococcus of Fraenkel, the pneumobacillus of Friedlander, the typhoid bacillus, the bacillus of tuberculosis, the bacillus of diphtheria, the gonococcus, the bacillus endocarditis griseus, the micrococcus endocarditis rugatus, the bacillus endocarditis capsulatus, the bacillus immobilis et fœtidus, the bacillus of Gilbert and Lion, and a few other microbes with less definite character.[41]

Some of the names in this formidable list indicate the discoverer's idea that there was but one microbe of endocarditis. This antiquated notion is a vestige of demonology, which taught that every disease was an entity due to one simple cause, and that cause a demon or ghost obsessing the patient. The deeper we study the more clear the evidence becomes that no absolute specific character belongs to any disease. Many causes can produce symptoms in common, and as the sums of symptoms constitute the disease, we may expect to find no lines of demarcation in which disease does not merge with disease. There are specific causes for every diseased condition and the knowledge of these causes is what we need, to be able to treat them successfully. Dr. Stephen Mackenzie, in his presidential address in the Section of Medicine of the British Medical Association, at its Montreal meeting, expressed this idea in the following words: "Until the exact nature of disease is fully understood, a truly scientific treatment is manifestly impossible."[42] But now the question arises as to how we are going to reach an exact knowledge of diseases as long as we continue using a nomenclature that is a source of daily deception and misunderstanding? Nomenclature is the mental tool of every diagnosis. Imagine our trying to study botany without our present nomenclature. Professor Allbutt of the University of Cambridge in the introduction to his "System of Medicine" has, we are quite certain, made the one error of that ably edited set of volumes when he throws the weight of his great influence against the naming of diseases by a system of nomenclature analagous to that used in botany and zoölogy.[43] Does he propose to have us forever remain without names to indicate those "groups of certain degrees of constancy" among symptoms? If the grouping and exciting causes are united in a double or triple name all of Professor Allbutt's objections disappear at once. We are already drifting naturally toward it. We can not avoid it if we desire to. No man is strong enough to stay the current for very long. Any system of naming diseases by a single name will perpetuate the wholly false notion that a disease is a something like an entity. The single name and the demon notion were conceived together and will by association always suggest something of each other. A new system that would not only do away with that suggestive association, but that would also force the mind toward a knowledge of the congeries of symptoms would check the very tendency which Dr. Allbutt fears. In the names "typhoid pneumonia" and "tuberculous meningitis" we have already developed the germ of a truly scientific nomenclature. Let us agree to make the existing cause or causes, as soon as known, the generic name of the disease and the lesion or primary seat of the infection the specific name. As our knowledge grows more profound we will be able to group the causes into families if we desire to do so, but at present it is unnecessary.

It is a pity that our bacteriologists have not yet discovered the specific causes of such common diseases as measles, scarlet fever and smallpox. They should have been among the first properly named, but as it is they could only be named provisionally. As soon as we hear of diphtheria pneumonitis, typhoid pneumonitis, erysipelous pneumonitis, streptococcus pneumonitis, diplococcus pneumonitis, etc., we naturally form a mental image of an inflammation of the lungs due to the general cause which the generic title indicates.

With a pliable nomenclature such as this we can have not only diphtheria or diphtheritic pneumonitis, but we can have diphtheritic meningitis, diphtheritic hepatitis, diphtheritic cystitis, diphtheritic nephritis, diphtheritic carditis, diphtheritic enteritis, etc In the same manner we can have with typhoid pneumonitis all such combinations as typhoid meningitis, typhoid cystitis, typhoid enteritis, typhoid hepatitis, typhoid gastritis, typhoid carditis, typhoid nephritis, etc Should we discover that in some form of typhoid infection the skin was the chief lesion, we would call it typhoid dermitis, and if the blood should be found the chief seat of the disease we could call it typhoid hemocytolysis In case there is no particular localization of the damage, a general name could be supplied to express this idea, and where two, three or more distinct points of infection exist simultaneously this too could be expressed in a name Where the specific microbe has a double or triple name these would have to be united and shortened, about as chemists shorten long organic chemic names Amœba coli enteritis might be shortened into the name amcol enteritis In this way the binominal system could be maintained for all ordinary affections and a trinominal kept for varieties We already know that there are varieties of cholera answering to various kinds of spirilla and varieties of malarial affections due to different kinds of plasmodia In such cases a triple naming would be a better means of telling the cause As soon as such a system of naming diseases has become current it is but a short step to a corresponding system of analysis as applied to symptoms for the discovery of causes

No effort has ever yet been made to classify symptoms in a scientific manner so as to aid the physician in making his inductions As there is really but one disease, varying with the cause or causes and with the extent and location of the lesions, symptoms naturally arrange themselves in interblending groups There are symptoms common to every disease, symptoms common to large groups of related diseases, symptoms common to small groups of diseases, and symptoms that belong to a single disease Without a proper system of naming diseases their proper groupings is impossible Correct the former and we can soon have the latter With a proper nomenclature we can soon tabulate the symptoms as they appear First we can find the most general ones that every form of disease manifests as soon as it has reached a certain degree of intensity Next we can get a list of the symptoms common to the large groups, then to the small ones and finally to the single ones The last-named symptoms, if correctly gathered, will tell the exciting cause, and when it is found, treatment is simplified to its utmost

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Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo , June 7-10 1898

BY H A MOODY M D

MOBILE ALA

The object of this brief paper is to emphasize the value of potassium iodid in meningitis, especially in that severe and fatal form known as cerebro-spinal meningitis

Since deciding to present this subject I have looked through quite a number of the authorities most frequently consulted by the general practitioner, to form an approximate estimate of the appreciation in which this drug is held in the treatment of meningitis I find that its use is recommended by many of them, but seldom during the stage in which I have found it most efficient Biddle does not mention it in this connection, neither does Hare in his shorter work, the one most frequently consulted Potter recommends a longer course of it during convalescence Wood does not recommend it, neither does Stillé Bartholow recommends it to remove adventitious products after the acute attack has subsided Skinner reports Dr Valten as asserting that it acts almost as a specific in epidemic cerebro-spinal meningitis Flint says that symptoms of oppression call for potassium iodid Von Ziemssen states that in a later period of the disease it is of great service Osler merely remarks that iodid of potassium is warmly recommended by some authors Aitken says, "no real proof of its utility has yet been brought forward" From the above it will be seen that we are not much encouraged to employ it by those authors most frequently consulted by the general practitioner

Thirty years ago Tanner said "With regard to medicines directly modifying the morbid action I know only of one in which the least reliance can be placed—the iodid of potassium" My own experience in the treatment of meningitis leads me to endorse the position of Dr Tanner I have witnessed two epidemics of cerebro spinal meningitis, in the first of which the iodid was not used to any efficient extent, while in the second it was the principal element in the treatment

In the first epidemic the treatment was purgation, morphin, chloral, the bromids, ergot, blistering and venesection Nearly all the patients died, some in a few hours, others after many weeks of suffering Venesection received the credit of saving a few lives, but as a rule both doctor and patient lacked the courage to employ it with sufficient boldness for efficiency In the protracted cases the iodid was used to promote absorption, but seldom proved effectual characteristic symptoms of typhoid fever, and that the typhoid germs sometimes produce symptoms not at all characteristic of typhoid fever as usually recognized

If we turn next to as apparently specific a disease as gonorrhea, every physician knows the danger to the eyes of the newborn by infection with the coccus of this filthy affection, and now Dr F R Hagner tells us that he has found cases of arthritis and tenosynovitis giving cultures of gonococcus[33] In catarrhal conjunctivitis Dr Gifford found that in an epidemic in Omaha, Neb, and surrounding country Fraenkel's pneumococcus was the cause, while in another in New York which he had had experience with a wholly different microbe was the cause[34]

The discovery of the Klebs-Löffler bacillus and the study of its characteristics have within a short time completely altered our conceptions concerning diphtheria Now there are cases, which a few years ago would not have been considered as even related to diphtheria, that are classed with that disease, and a number of anginal affections that we called diphtheria are now excluded from such recognition[35] Dr W P Herringham of St Bartholomew's Hospital, London, says that "it must be remembered that membranes, produced by other bacteria besides the diphtheria bacilli, may appear in the throat, and that in many cases the clinical phenomena prove to be of but little assistance, a careful bacteriologic examination is therefore required"[36] Anders tells us that "diphtheria may exhibit a number of variations as regards the seat of attack and the severity of the poisoning" He mentions nasal diphtheria, wound diphtheria of lips, tongue, vulva or glans penis, laryngeal diphtheria, etc[37] S Gee refers to latent diphtheria, in which the poisoning occurs without the appearance of a membrane of any kind[38]

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Since deciding to present this subject I have looked through quite a number of the authorities most frequently consulted by the general practitioner, to form an approximate estimate of the appreciation in which this drug is held in the treatment of meningitis I find that its use is recommended by many of them, but seldom during the stage in which I have found it most efficient Biddle does not mention it in this connection, neither does Hare in his shorter work, the one most frequently consulted Potter recommends a longer course of it during convalescence Wood does not recommend it, neither does Stillé Bartholow recommends it to remove adventitious products after the acute attack has subsided Skinner reports Dr Valten as asserting that it acts almost as a specific in epidemic cerebro-spinal meningitis Flint says that symptoms of oppression call for potassium iodid Von Ziemssen states that in a later period of the disease it is of great service Osler merely remarks that iodid of potassium is warmly recommended by some authors Aitken says, "no real proof of its utility has yet been brought forward" From the above it will be seen that we are not much encouraged to employ it by those authors most frequently consulted by the general practitioner

Thirty years ago Tanner said "With regard to medicines directly modifying the morbid action I know only of one in which the least reliance can be placed—the iodid of potassium " My own experience in the treatment of meningitis leads me to endorse the position of Dr Tanner I have witnessed two epidemics of cerebro spinal meningitis, in the first of which the iodid was not used to any efficient extent, while in the second it was the principal element in the treatment

In the first epidemic the treatment was purgation, morphin, chloral, the bromids, ergot, blistering and venesection Nearly all the patients died, some in a few hours, others after many weeks of suffering Venesection received the credit of saving a few lives, but as a rule both doctor and patient lacked the courage to employ it with sufficient boldness for efficiency In the protracted cases the iodid was used to promote absorption, but seldom proved effe

Ten years later I was called to visit another community stricken with cerebro-spinal meningitis. To illustrate the violence of the epidemic, I will briefly relate its history. It originated in the home of a farmer whose house was a log cabin containing two rooms with an open passage-way between and a detached kitchen. It was built on low, damp, alluvial soil, and was much too close to the ground for the ventilation needed in southern climates. The family consisted of a man, his wife, and five children aged from 8 to 18 years. Water was procured from a well near the house, and the earth was so wet from spring rains that the water could be dipped out at the top of the well with a dipper made from a gourd. The man told me that before his family was attacked he noticed that some half-grown hogs running loose about the premises acted as though they were sick. He said that some of them "took fits and died."

His youngest boy, abut 10 years old, was taken with severe pain in his head, back and limbs. The physician who was called to attend him noticed a peculiar flea-bitten appearance on the wrists and chest. He suspected some eruptive disease, but the absence of any considerable rise of temperature puzzled him. The patient soon became comatose, and on the second day of his illness he died. Immediately after his death his mother was stricken and on the following day a brother and a sister developed the same symptoms. The physician became alarmed and sent for me to assist him.

I found the mother dead. The two living cases were suffering with severe pains in the head and back. Any touch upon the limbs provoked shooting pains, temperature but little over 100, pulse very soft and compressible, but regular and slow, there was a peculiarly soft, watery look of the eyes, as though there was lack of tension. There was a rose colored eruption, thickest on the wrists and arms, but present in varying degrees all over the body. The spots varied in size from that of a pin-point to a fourth of an inch in diameter. They were evidently extravasations. Upon examining the body of the dead mother I found them much larger and darker than on the living, but the doctor informed me that until her death the spots had been rose colored. I learned that in three other families living near by the same disease had appeared that morning. Each of these new cases occurred in persons who had spent a night or two in waiting on those first attacked. I visited all the cases, and could not doubt the existence of that most terrible of diseases, epidemic cerebro-spinal meningitis. Many kind-hearted neighbors had assembled to help the afflicted family, but when the dreaded name, "spotted fever," began to be whispered among them all left the place except some five or six men who deemed it their duty to bury the dead and remove the survivors from the infected locality. There was a general stampede from the neighborhood, and it is interesting to note that although the disease developed in some of the fugitives it was not communicated to those among whom they had come. Extreme caution, however, was exercised to prevent any unnecessary communication with those who had been exposed.

Remembering the unsatisfactory results of the treatment employed in my previous experience, I decided to give the iodid of potassium a thorough trial as recommended so highly by Tanner. The adults were given from 6 to 10 grains every two hours, children receiving proportionate doses. Pain was controlled by morphin hypodermically administered, and ergotin was also given. Each case had a cantharidal blister on the occiput and the back of the neck. Light was almost excluded, as a matter of comfort and protection to the eyes, and liquid nourishment was given in small quantities.

The number of cases thus treated under my observation was ten, and other cases which I did not see were similarly conducted. One of the early cases, far advanced before recognized, died. There was no further mortality, the disease seemed to yield visibly as the patients came under the influence of the iodid. Few of them recovered without some permanent injury. Several had the sight of one eye destroyed by suppurative choroiditis. Some lost their sense of hearing. In one case there was paralysis of a limb. I attribute the preservation of life to the iodid, because the ergot, morphin and blisters had utterly failed in my previous experience. During the subsidence of the epidemic another case died in a town six miles or more from the point where it originated. How the disease was contracted is unknown, as there was no traceable communication with infected persons or places. The nature of the case was not recognized by the physician for several days. The treatment was first calomel and then quinin, then morphin, chloral and bromids. I saw the case a few hours before death, there was no eruption, but otherwise the symptoms were well marked.

Since the experience above related I have tested the usefulness of potassium iodid in quite a number of cases of sporadic meningitis, and my confidence in its utility increases with experience. Quite recently I administered 50 grains a day for six days to a child 18 months old. Its father is a thoroughly equipped physician. He agrees with me that the iodid was the first medicine to exert any appreciable influence over the morbid process. The child recovered with the loss of its sense of hearing.

INFLUENCE OF AGE IN CAUSING OPACITY OF THE CRYSTALLINE LENS, AND THE PROPER USE OF THE WORD "CATARACT"

Presented to the Section on Ophthalmology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY EDWARD JACKSON, A.M., M.D.
EMERITUS PROFESSOR OF DISEASES OF THE EYE IN THE PHILADELPHIA POLYCLINIC; FORMERLY SURGEON TO WILLS' EYE HOSPITAL.
PHILADELPHIA, PA.

The subject of the pathology of cataract is too extensive to be profitably considered in the time at our disposal for the purpose, I shall, therefore, confine myself to one or two phases of the influences which determine opacity of the crystalline lens.

The common use of the phrase "senile cataract" argues a general consent in the view that advanced age has some fixed relation to the condition. That it can not be a necessary, or the only causative factor is demonstrated by the large number of young persons that we see with opacity of the crystalline lens, and by the other fact that many reach even an advanced age without suffering from such opacity.

Of recent years much attention has been directed to certain other probable or possible factors. Among these there can be little doubt but that eye strain exerts an important influence. Many times where there had been recent impairment of vision, and upon examination lens opacity found to be the cause of it with the cessation of eye strain the progress of the opacity has been absolutely checked In a few, not only has the opacity ceased to increase, but there has been noticeable diminution of it Such an occurrence is probably not very rare

It has doubtless happened also to all of us to have encountered cases of lens opacity that have followed acute disease The most striking cases of the sort that I have seen have been in connection with the grippe or epidemic influenza In one of these cases three successive attacks of grippe in three different years were each followed by very rapid increase in lens opacity After the first two there was slow improvement until the patient regained useful vision The third attack left the vision reduced to the perception of moving objects, rendering extraction necessary

With regard to renal disease as a cause of cataract, my experience would indicate that it was not very important The routine of examination of the urine before cataract extraction has shown a comparatively small proportion of cases suffering from albuminuria, or showing casts Angeiosclerosis usually attended with occasional traces of albumin in the urine is quite common among people old enough to be especially liable to cataract And contrary to what I had before supposed, a recent examination of the history of a series of cataract cases has not seemed to support the view that albuminuria was especially frequent

The matter of surprise to me was that this study of the subject showed such great frequency of lens opacity in advanced age The statistics of an ophthalmologist's practice can not always be regarded as reflecting the frequency of certain conditions throughout the community, and yet, it seems to me, that even in that direction the following statistics have some significance, since a large proportion of the patients did not come for the opacity of the crystalline lens, but for other conditions, as acute or chronic conjunctivitis, or the fitting of glasses

Among 10,000 patients attending my clinical services at the Philadelphia Polyclinic and the Wills' Eye Hospital, all of whom were examined ophthalmoscopically, except those in whom the use of the ophthalmoscope was impossible by reason of opaque media, or closure of the lids, there were 1544 over 50 years of age Arranging these by five-year periods I find

Age	Lens clear	Some lens opacity	Totals	Percentage of opacity
50 to 55	460	81	541	15
55 to 60	260	50	310	16 1
60 to 65	196	85	281	30 2
65 to 70	99	83	182	45 6
70 to 75	60	71	131	54 2
Upward of 75	23	77	100	77
Totals	1098	449	1545	29

These figures, especially the percentages, strikingly point toward the importance of age in the production of cataract Yet if we take an affection like toxic amblyopia, especially varieties caused by the abuse of tobacco and alcohol, and arrange the statistics in similar age periods up to the age of 60, the influence of age is quite as striking Thus the age of twenty successive patients affected with toxic amblyopia, arranged in ten-year periods was as follows

Under 30	none in 4627
30 to 40	3 in 2116
40 to 50	8 in 1412
50 to 60	4 in 851
Above 60	5 in 696

Yet we hardly think of toxic amblyopia as due to age So with senile cataract While age is certainly a very important factor, it probably for many cases only constitutes a predisposing cause Before the age of 50 cataract, aside from the result of traumatism, is rare even at that age and for some years afterward, the cases giving a history of injury constitute a rather large proportion

It has seemed to me that at this time eye strain produces a decided effect in increasing the number of cases of lens opacity, since just before that age all patients suffer some strain from their loss of accommodation The history of individual cases points still more strongly in this direction, many times it includes the rapid increase of the opacity during the period of severe strain from presbyopia, and after that the opacity becomes entirely stationary and remains so under proper supervision of the eyes for years

Strain of the eyes from presbyopia is one way in which age may predispose to cataract It is possible that later, in quite an opposite direction, the same influence may be exerted The connection of cataract with choroidal disease and myopia is one of the few established points of its pathology Now, the senile and the myopic eye have this in common that there is less use of normal accommodation and whatever influence it may exert upon the nutrition of the eye is to that extent lost It is certain that myopic and senile eyes show the same tendency to thinning of the choroid and loss of the retinal pigment layer, and it seems not unlikely that intermittent accommodation has some influence in maintaining the nutrition of the lens There is besides these specific influences the general failure of nutrition that occurs in old age and it is not surprising that transparency, a highly specialized character, should be lost simply through the general lowering of nutritive activity

But these statistics suggest another important thought Of patients upward of 75 years of age, 77 per cent show some opacity of the lens Are all such patients to be informed that they are suffering from cataract?

Gould's Dictionary gives as the definition of cataract "Diminished transparency or opacity of the crystalline lens, or of its capsule" This is substantially the definition given in other works of reference But cataract, to the general public, means a disease of the eye leading to blindness, and only curable by a capital operation So long as this c was not discoverable until it had caused g t of vision and was perhaps approaching i for operation, the discrepancy was t now that we recognize the first beg y, in the crystalline lens, the use of the to indicate slight opacities, when it stood to mean early and complete b ously misleading The introduction "incipient cataract" is doubtless in this difficulty, but it does it very imp any phrase that retains the objec Many people have been rendered sk honesty of the surgeon by a diagno which has not after many years, b blindness or any serious impairment have been rendered extremely n blindness from which they were suffer There has even been sc thought in the profession upon the s heard a surgeon announce in a State medical society that he favored operation on cataract in all cases when the vision fell to 20/70 I have known a surgeon of respectable antecedents to propose and urge such an operation for a patient who had some lens opacity but who could still see to do fine sewing and read ordinary type with either eye

If the question of the significance of slight opacities of the lens were one rarely of practical importance, this subject might not be worth while discussing, but where it arises in more than three fourths of our patients who have reached the age of 75 years it is of great practical importance My own custom has been not to use the word "cataract" unless the opacity was causing serious impairment of vision, or likely to require operation In the other cases I have informed the patient of the existence of "lens opacity," and have explained its probable significance, only speaking of "cataract" in response to some direct inquiry as to whether it or anything like it was present I believe that such a course gives patients a far truer idea of their condition than one which calls all lens opacities "cataract" It seems likely that some such distinction of terms will in time arise It is probably useless to attempt by recommendation or resolution to introduce such a term, but if the need for it is clearly recognized and appreciated on the part of the profession, the differentiation of language will naturally follow

DISCUSSION

Dr F C Hotz, Chicago—I am sorry that I came in too late to hear the paper and only caught the closing remarks, from which I infer that Dr Jackson recommends the use of the term cataract only for rather advanced state of obscuration of the lens, so advanced that an operation will soon be necessary, and not to apply it to those slight opacities of the lens which may remain stationary for a great many years So far as the patients are concerned, I fully agree with the reader of the paper, and just as he has been in the habit of not calling it a cataract when it is only a slight peripheral opacity, so have I restrained myself from using that term in conversation with patients Certainly these opacities remain stationary for many years, for instance, I had this winter the opportunity to examine the eyes of a lady 69 years of age for a readjustment of her glasses, and she told me that thirty years ago she consulted Dr Agnew in New York, who told her that she had a cataract in one eye I was surprised at the information, because the vision in that eye was still 20/40 At the examination in the dark room I found some short, equatorial streaks in the lens, so that evidently, if the information was correct, and I have no reason to doubt the lady's word, these equatorial streaks existed thirty years prior to my examination As cataract is a condition which in the public mind is considered as a sign of advancing life, and as this lady after receiving the information from Dr Agnew might have gone to some of these renowned healers, or to that institution in New York State that cures cataract by absorption, or if she had meddled with Christian scientists, who claim to stay the threatening blindness, she certainly would have had apparently good reason for giving credit to such healers for the fact that her eyesight had been preserved for thirty years From such considerations I think it is a good suggestion on the part of Dr Jackson that we should not use the term cataract for all conditions of opaqueness or disturbance of the lens transparency

Dr G C Savage, Nashville—I should like to say a word relative to the causation of cataract I think that one cause is a diminution of the nutrition of the lens because of failure of ciliary power Whether we agree with Collins or not, that there are glands in the ciliary body which secrete fluid essential to the well being of the lens, we must agree that the lens gets its nourishment largely from the ciliary body in some way The more active the muscle of the ciliary body the better will be the nutrition of that body and the lens I believe it is just as possible to develop a ciliary muscle which is weak, or to prevent its growing weak, as it is to develop any other muscle of the body, and it seems to me that the patient should be given the advantage that can be derived from restoration of the ciliary's power I am approaching the age at which presbyopia usually comes, and more than a year ago I found it very difficult to extract foreign bodies from the cornea I was beginning to hold my paper and book farther from me than was comfortable I began then the exercise of my ciliary muscles and have now full restoration of power I mention this to show you that the ciliary muscle can be developed and old sight be delayed, perhaps indefinitely In this way may not the lens be made to retain its transparency as well as its elasticity for a long time? Thus we may be able to prevent the development of cataract This exercise is effected by means of weak, concave, spherical lenses (—S O D) in simple spectacle frames For ten minutes each night I sit down, with the light turned low, and with the view of keeping my young sight and maintaining lens transparency, I exercise my ciliary muscles I sit eight or ten feet from the light with my astigmatic glasses on, I raise and lower the exercise lenses at intervals of three seconds, for ten whole minutes I can read without the use of old sight glasses and I hope to be able to do so for years to come, and also hope to keep the nutrition of my lens so good as to prevent cataract

Dr Leartus Connor, Detroit—It occurs to me that if Dr Savage's rule is correct, there need never be any increase in the inorganic matter in our tissues if we only exercise enough It ought to be true of the biceps muscle as well as of the ciliary muscle All should retain the proportion of organic matter that exists in youth I should be very glad to think that my friend is right and that we have arrived at the basis of an elixir of life and need not die, for death comes from the increased proportion of inorganic matter in the several tissues of the body

I think, though, that the doctor is right in one point, that is that the improved nutrition of the lens, however effected, is a feature in preventing the increase of these opacities I have under my observation several persons in whom I recognized opacities in the lens, at times, varying from ten to eighteen years ago, who at that time had errors of refraction that were corrected, and the result of that correction has continued to the present time while the lens opacities scarcely changed I think it was from Dr Risley's paper, calling attention to the relation between the eye strain and the production of a cataract, that I got my suggestion on this point At any rate it seems rational that if you can prevent abnormally disturbed nutrition you can retain its normal transparency I think Dr Risley at one time collected a vast amount of statistics in Philadelphia showing the proportion of cataracts as seen many years before and the slight change that had occurred The result was that the greater attention to errors of refraction had diminished in Philadelphia the proportion of cataracts

The only objection I see to Dr Jackson's method, which I think is entirely sound, is that some other person may see the patient, tell him that he has a cataract, and the patient thinks the first examiner knew nothing about it Perhaps that might be overcome by telling some of the patient's friends

Dr Frank Allport, Chicago—I suppose that a recitation of extreme cases in this particular might be valuable We all see cases, from time to time, of opacities of one kind and another in the lens that do not increase from year to year, but Dr Hotz's case reminds me of an instance, which I re ported in one of the journals, though I do not remember now just where

A lady almost similarly situated came to me a year or two ago and while under ordinary circumstances I would not have paid so much attention to what she said, I was *forced to* believe what she said because she was the wife of a physician and a woman of unusual powers of observation She came for a correction of refractive error, and in the course of examination I noticed quite a considerable opacity at the periphery of the lens of both eyes I spoke to her about it and she said that twenty five or thirty years before she had been examined in New York I think by both Drs Agnew and Knapp, at least the former, and he told her to prepare herself for a cataract extraction in the course of a year or two Her vision never decreased and she could see just as well at the time I saw her as she did twenty five or thirty years before This shows that we might allow these patients to retain their mental equipoise for a long time rather than disturb them with the information that they have a cataract, which is synonymous in their minds with the rapid approach of blindness

I think we should tell them they have an opacity of the lens and not mention the word cataract, or else tell some of the friends of the family so as to protect ourselves We all know that the correct adjustment of glasses and the building up of the health will put off the full development of the cataract in many instances for a number of years and it seems too bad to have sensitive patients disturbed for many years unless it is absolutely necessary to tell them

Dr Jackson—I recall one case that is perhaps worth mentioning because it was seen by three or four prominent oculists It was an old lady, then about 60 years of age, who had lost vision rapidly until she could not see to read at all She had extensive lens opacity and it was expected that within a few months the cataract would be ready for extraction All her eye work ceased Pretty soon her vision began to improve somewhat, and it was found that it could be further improved by the aid of glasses, and in the course of a year or two she got back to reading Now, after over twenty years, she reads magazines, newspapers, etc , for several hours a day and does not suffer from her impairment of vision The condition is now one of almost entire opacity of the periphery of both lenses, with a small tunnel of clear lens substance right back of the pupil It is not a peculiar form of opacity, but I think it might happen in almost any case of cataract that the progress of the opacity might be checked, or so far as we know, cease spontaneously The point raised by Dr Connor that the patient may be alarmed by somebody else and think we had overlooked the condition might occur, is an important one I have discussed cataracts with my patients for the distinct purpose of preventing their being frightened by some one else Where I have watched the lens for some months or years, where I knew the cataract was not progressive and where it was likely the patient might pass into other hands, I have gone out of my way to give the patient a full account of the condition of his eyes, to guard against that risk I think this is just as important as it is to avoid the term cataract in many instances

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A FORM OF CORNEAL TURBIDITY EASILY OVERLOOKED

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June 7 10, 1898

BY H GRADLE, M D ,
CHICAGO

The form of corneal cloudiness to which I wish to call your attention escapes detection when the eye is examined by either direct or ophthalmoscopic inspection Apparently the cornea has its normal lustre and transparency The turbidity is only detected on using a highly magnifying lens with lateral illumination It is of course known that the normal cornea is a turbid medium This can be shown strikingly when we use an electric light for focal illumination, and throw a sharp image of the incandescent filament upon the corneal surface It seems to be less well known that the turbidity revealed by the focal illumination can be resolved by a strong lens into a granular appearance There are differences in this respect between apparently normal eyes The more turbid the cornea, the better defined the grain I may add that by this method of examination other anomalies of corneal transparency may be found, which escape detection otherwise A strong lens will reveal quite an amount of diffuse cloudiness around opacities, which, even with ordinary lateral illumination, seem well circumscribed I have observed too, after some cataract extractions, that imperfect vision may be due to a corneal haze which I was unable to demonstrate by other modes of examination

The form of corneal turbidity which is the object of this paper, appears simply as an exaggeration of the normal cloudiness When both eyes are alike, it is difficult to say whether we observe the normal haze or a moderate exaggeration, unless the turbidity, and especially its granular nature, is very pronounced If, however, the trouble is one sided, the comparison between the two eyes proves decisive

I have observed this corneal turbidity in patients complaining of asthenopic symptoms, with, however, more burning, smarting, or a feeling of "foreign body" than is usually mentioned in connection with refractive errors The eyes become blood-shot on continued exertion While the turbidity can not be seen with the ophthalmoscope, it still interferes with vision enough to lower it below the normal, even after the most painstaking correction of existing errors It has seemed to be somewhat characteristic that these patients were uncertain in their answers regarding the influence of glasses, to an extent rather striking in view of the nearly perfect vision

I will first quote the one-sided instances, as they are the most conclusive Both the patients had bilateral errors, but complained essentially of the one eye It was noticeable that the eye was irritated, as it presented a slight, but unmistakable inflammatory ptosis There was no ciliary injection, but the deep scleral veins next to the upper and lower transition folds were prominently distended On focal illumination and inspection through a short-focused lens the cornea of the irritated eye presented distinctly more interstitial haze and fine "dottings" than the other eye, otherwise the eye showed no anomaly that could account for the lowered vision

Case 1 —Mrs L , 53 years of age Complained since many weeks that the left eye feels weak and gets tired on exertion, and ultimately begins to burn and becomes slightly blood shot She has changed her formerly satisfactory glasses to 3, 5 D, but without benefit The right eye appears externally normal The lid aperture of the left eye is slightly smaller, and the left lids are a trifle more vascular than the right On exposure the scleral veins next to the transition folds are visible in the left eye The conjunctiva is normal, but everting it causes a trifling superficial injection on the eye ball Tension, pupils and fundus normal in both eyes Lateral illumination and the use of the lens show an unmistakable difference in the turbidity of the two corneæ

R E V $^{20}/_{100}$ Sph+1 5=20/[illegible]
R E V $^{20}/_{100}$ Sph+1 & Cyl+1 axis 180=$^{20}/_{10}$

Being somewhat uncertain how to interpret the condition which I did not think was fully accounted for by the astigmatism, *I advised rest of* the eyes and the inspersion of calomel in the left eye One week later the same objective appearances, but with comparative comfort except on use of the eyes She was advised to use for work,

R E +3, 5
L E +3, & *Cyl* +1 axis 180

One week later she expressed herself satisfied, but the objective appearances were unchanged One month later she admitted that she had even less discomfort in the left eye than at first when she began using her glasses The objective difference between the two eyes still existed, but was less pronounced than originally The calomel had been continued during this time

Case 2 —Miss S , 35 years of age Has noticed since years a small, faint spot of circumscribed redness on the external part of the sclera of left eye Four years ago there appeared a "blister" on this spot which soon healed On account of headaches she received glasses (R Cyl —1, axis 180 , L Cyl —1, 25 25 axis 180 & Sph —0 5), which gave her relief The left eye has, however, remained smaller than the right, and is sometimes bloodshot Lately she has had more or less burning pain in the left eye only The right eye is externally normal, with *the exception of slight distention of scleral veins next to the* transition folds The left lid aperture is smaller, the lids a trifle more vascular, the scleral veins at the periphery a trifle fuller than in the right eye On the sclera of the left eye external to the cornea, there is a small, red spot made up of separate dilated vessels, but without any inflammatory appearance (hence, no episcleritis) The conjunctiva is slightly vascular in the superior transition *folds* in both eyes Lateral illumination with magnification shows the left cornea decidedly more turbid and "dotted" than the right The only ophthalmoscopic anomaly is a large conus downward in both eyes

R E 20/10 Cyl —1, 25 axis 180=20/20—
L E 20/10 Cyl —1, 25 axis 165=20/10—

(With some uncertainty)

Her glasses were changed, and one week later she expressed herself as nearly satisfied She was ordered to insperse calomel Eight months later she returned She had lost all complaints after using calomel for a few weeks except the objective appearance, but since some weeks she has again more or less *steady discomfort in the left eye,* in the form of burning and scratching, increasing on exertion The objective appearances are the same as the previous year except that the difference between the two eyes is not so pronounced As far as one can judge in such subtle matters, there is less haze of the left cornea than previously, but a little more scleral vascularity on the right side There is, however, still slight but unmistakable *narrowing of the left lid aperture* She has now been under observation three months, and has nearly lost the objective appearances as well as the subjective discomfort, yet the treatment was hardly more than expectant She has used calomel in both eyes, paid some attention to general hygienic measures, but has not abstained from moderate eye work Although the left cornea seems to have cleared slightly, the vision has not improved, but her answers on refractive examination are more positive than formerly

In the following cases the disease was not one-sided, but more pronounced in one eye than in the other The cases are, therefore, not as clear as the two previous instances

Case 3 —Mrs K , 27 years of age The eyes get tired on use, and exertion gives her dull frontal headache Since three months she has a feeling of a foreign body in the left eye, which is sometimes bloodshot The eyes and conjunctival surfaces are not reddened, but in the periphery the scleral veins are fuller than normal The left eye appears a trifle smaller than the right There is increased corneal haze apparently alike in both eyes—of course only visible by focal illumination Fundus normal

R E V=20/60 Cyl —1 axis 90 & Sph —75=20/25
L E V=20/60 Cyl —1 axis 95 & Sph —1 5=20/30

She was ordered to wear Cyl —1 and Sph —0, 75, which proved most comfortable on trial *Twenty two months later* she returned, stating that the glasses had relieved the pain and headache, but for a while she still felt slight irritation in the left eye, and is probably not absolutely free from it yet The objective condition is the same as previously The left lid aperture a trifle *smaller than the right*

Case 4 —Mrs M , 29 years of age Is in poor health since her last confinement, has pelvic disease Since half a year she gets tired from eye work, which ultimately gives her a headache The eyes are apt to become bloodshot, and the lids *often droop so as to* give her a sleepy appearance The right eye is a trifle smaller than the left The *ophthalmoscope* shows the edge of the right disc slightly blurred The corneæ show both more than the normal *turbidity*

R E V 20/40 Cyl +0 5 axis 180 20/35
L E V 20/10 *Cyl +0* 5 axis *180* 20/30

She was ordered Cyl +0 5 and the use of calomel as well as *general hygienic* measures, as I did not think that the local condition explained fully her complaints However, *two weeks* later she admitted that she was much better, though still not able to use her eyes *indefinitely without some suffering*

Case 5 —Miss S , 41 years of age Had suffered much with headaches in the form of migrain, which two years ago were said to have been relieved by the use of a Cyl +0, 5 axis 90 Lately she has again had more headache, probably from close application to study and want of exercise On steady exertion she gets burning in the eyes I found the refraction fully corrected by her glasses, though her sight did not reach quite 20/20, especially in the left eye Her accommodation was normal I ordered only hygienic measures, which proved sufficient to give her relative comfort

Six months later she returned, claiming to be fairly well satisfied, except that she still has burning of the eyes, lately somewhat more annoying There is no injection whatsoever, but *unmistakable increased turbidity* of the corneæ, and in the left eye more than in the right At the previous time she had not been examined in this respect As her accommodation seemed slightly insufficient, she was advised to use Sph +0 75 for a trial for work, but she has not reported the result

Case 6 —Mrs H , 57 years of age Slightly tired on use of the eyes Occasional migrain Comes mainly on account of twitching of the left upper lid The only anomaly found was a difference in the transparency of the two corneæ, the left being a trifle more hazy on focal illumination, and presenting a decidedly more marked—relatively coarse—grain

R E V 20/40 Cyl —0 5 axis 165=20/30
L E V 20/50 Cyl +1 axis 135=20/30

Although she could decipher a little more positively with the left eye after *correction* than with the right, she was still definite in her statement that the letters seemed more blurred to the left eye than to the right The above glasses given to her proved, however, satisfactory

Case 7 —Mr T , 20 years of age Sight is blurred at times *to a* variable extent Headaches from long use, and the eyes get red and watery, the watering being more annoying on the right side He had *lately obtained glasses* (R E Cyl —0,75 axis 180 , L E Cyl —0,25 axis 180 & Sph —0,5), but was quite doubtful as to their value I found his optic condition,

R E V 20/10 Sph —0,5 & Cyl —0,5 axis 90 20/30,
L E V 20/40 Sph —0,5 & Cyl —0 5 axis 90 20/30,

with considerable hesitation concerning these glasses The corneæ were both decidedly turbid and almost stippled, so that there could *be no doubt about its being* a *morbid* condition, yet neither direct inspection nor ophthalmoscope showed this anomaly There was slight congestion of the palpebral conjunctiva, but no actual catarrhal condition The lachrymal puncta seemed normal on the left side, while on the right the lower one could not be found, and the upper one appeared unusually small As I could not account for the watering, except on the supposition of a lachrymal stricture, I divided the right upper canaliculus down into the sac, finding indeed much obstruction in the path In view of the corneal condition, I suggested calomel to be dusted in Contrary to my expectation, the blurring and watering improved decidedly in the course of a fortnight On using the probe a few consecutive times, the patency of the right passage was easily maintained The left lachrymal channel was never examined At the end of the third week he was contented to stop further treatment as he was practically free from complaint, and his vision had risen to 20/30 As far as one can judge, both corneæ appeared less turbid

Four months later I found him free from discomfort, no more watering, vision satisfactory, though only 20/30, and the cornea apparently not as turbid as originally He accepted the same cylinders as before, but was doubtful about the concave spherical glass He felt, however, no need for glasses

All these patients had refractive anomalies, but these errors did not account fully for the complaints in the majority of instances, especially the one-sided ones There was more burning and external irritation than is found in typic cases of refractive errors While glasses were of benefit in all but the last instance, *they did not* give immediate and prompt relief to all symptoms In the last instance, indeed, the complaint ceased even without optic correction

Yet the refractive anomaly seems to me of some etiologic importance since the more ametropic eye showed the most irritation and the greater corneal turbidity in all anisometropic instances

It was noticeable that these patients showed more than the ordinary hesitation in choosing glasses In none could I obtain absolutely perfect vision A condition of irritation was manifest in the one sided instances, and in some of the unequal bilateral ones, by the slight but unmistakable ptosis Indeed, it was this symptom which induced me to use lateral illumination, in the expectation that I might find a minute circumscribed corneal infiltrate as the possible lesion Instead of this, however, there was the increased corneal turbidity entirely diffuse and not circumscribed I do not consider this a keratitis, as there was neither dimness of lustre nor opacity recognizable by the ophthalmoscope Yet there must have been some irritative lesion, as suggested by the slight ptosis, as well as the fullness of the scleral veins next to the transition fold The conjunctival congestion noticed in some was not always present, and hence was either secondary or irrelevant As to the nature and exact site of the irritative process, I can not express an opinion The corneal turbidity seems to me a secondary consequence, probably due to lymphstasis It seems to account however, for the imperfection of vision

The irritative condition here described, is, I believe, a not infrequent bilateral occurrence, and, as such, a factor in many instances of rebellious asthenopia But when bilateral the diaganosis is difficult For the very symptoms which suggest it, the slight inflammatory ptosis, the vascularity of the sclera next to the fornix, are so little pronounced that they are scarcely observed unless unilateral and thus accentuated by comparison The corneal turbidity itself is, as I emphasized, but an exaggeration of the normal condition As the normal turbidity varies somewhat, the diagnostic judgment is easily at fault, unless the haze is relatively coarse or a difference between the two corneæ facilitates the comparison The first bilateral case, however, that I observed not quite two years ago, showed such a marked turbidity and coarse "grain' that it could be easily and positively pronounced morbid, indeed, I hesitated whether or not to call it keratitis Unfortunately I saw that patient only once, probably because the correction of her astigmatism proved relatively satisfactory I have records of five other patients whom I would place in the same class They all had more or less burning or smarting sensations not fully accounted for by their ametropia, as this was either minimal, or as its correction gave only partial relief On using the eyes they became bloodshot In all cases the vision was not quite equal to 20/20, and glasses, if accepted at all, were passed upon with much hesitation In all these instances the corneæ seemed to me less than normally transparent In some my diagnosis seemed definitely established, in others I remained in doubt on account of the feebly pronounced objective appearances I can recall many instances besides that presumably belong to this group from my former experience before I used lateral illumination in such patients systematically, but of course lack the essential objective criterion in my records

DISCUSSION

Dr L J **Lautenbach**, Philadelphia—I think any one who uses the ophthalmometer extensively will have noticed a large class of cases of opacity of the cornea not recognizable by the usual methods of examination No ophthalmoscopic examination is equal to that which we get by taking the incandescent filament as our source of light, using its reflected lines to indicate the exact contour of the inside of the eyes as well as of the corneal layers It is one of the best ways of carefully studying the corneal nutrition The ophthalmoscope thus gives us knowledge not obtained in any other way I simply mention this to call attention to the advantage of having the best instruments for bringing out the various fine anatomic and pathologic points

The causation of these cases seems to me to reside in a disturbance mainly dependent upon blood conditions These cases usually give a rheumatic or syphilitic history, though it is not always present I expect in a very short time to bring forth a paper covering this very ground It covers the case of a patient who was operated upon for cataract and where this peculiar opacity of the cornea has been greatly controlled by the use of glasses In another similar case I am not using glasses, but with the knowledge of the man, am studying the changes that are taking place in his cornea

Dr **Edward Jackson**, Denver—I have seen a few cases such as Dr Gradle refers to, and I agree with him in thinking that eye strain is a very important factor in the causation The condition has yielded to the persistent use of one of the slow mydriatics, used sometimes for three or four weeks

Dr **Harold Gifford**, Omaha—When Dr Gradle announced the subject of his paper to me I thought it time to say something of a form of opacity which I have been demonstrating to my friends for some years I have called them normal opacities of the cornea I have never yet seen a cornea which with proper illumination and examination you could not dissolve the haziness into little spots and clouds distinct from one another This is not easy to see and recently when I tried to demonstrate it to some gentlemen in New York, I failed entirely for want of a proper lens The haze which you see with the ordinary pocket lens resolves itself when you get a magnifier of five or ten diameters into these little clouds I think the explanation of that is that they represent the so-called corneal corpuscles and they are more prominent at times because of their filling up with leucocytes and that may account for the changes taking place under eye strain I am sure that it is a perfectly normal condition and that any of you who take the proper means can demonstrate it to your satisfaction If there is the slightest sort of irritation, be it an ulcer or foreign body, you will at once find these opacities much larger and tending decidedly to run into each other They are more easily seen with a dilated pupil

Dr J F **Fulton**, St Paul—I am very glad that Dr Gradle has introduced this important subject, because it covers a class of cases that has embarrassed us very much There is no doubt they are due to strain of some kind and in many cases I think is a stage of active keratitis This condition is not only due to refractive trouble, but frequently to muscular trouble, and anything that relieves the strain will improve the condition It becomes therefore important not only to correct refractive errors, but to correct the muscular condition

Dr **Gradle**—I mentioned the incandescent filament as a method of examination to show the normal turbidity, but it has no clinical advantage I can confirm what Dr Gifford said about the normal cornea The haze can be resolved into fine dots or clouds and sometimes into a few comparatively coarse dots It is difficult to say on examination of an eye whether the turbidity you find is more than normal or not I can not do it except in one sided instances or in those cases of bilateral trouble where the turbidity is decidly increased

I consider this condition very common, for I have on record at least six cases since I began to observe the trouble two years ago, of the same condition existing in both eyes uniformly, but the difficulty of diagnosis here is great The cases are asthenopes that complain of external irritation of the eyes, sandy feeling, burning, etc But the pronounced symptoms of the one sided cases fail us in some of these bilateral cases The first case I saw was so pronounced that I wondered whether or not it was keratitis The other cases were not so pronounced, but in all there was sufficient turbidity to enable me to say that there was deviation from the normal

BACTERIA ONE OF THE CHIEF ETIOLOGIC FACTORS IN DISEASES OF THE EYE

Presented to the Section on Ophthalmology, at the Forty ninth Annual *Meeting of the American Medical Association*, held at Denver Colo June 7-10 1898

BY ELLET ORRIN SISSON, M D

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KEOKUK IOWA

While the relation of bacteria to general diseases has been proven beyond a doubt, and with the result that the practice of medicine and surgery has been practically revolutionized, and placed on a more thorough scientific basis than at any time in its history, the special field of ophthalmology has also received attention, and although we have but entered upon this line of research, we are able to report several important discoveries which are of inestimable value to the ophthalmologist, and which will undoubtedly be followed by others, serving to explain many hitherto misunderstood phenomena

It is perfectly reasonable to suppose that bacteria should be one of the chief etiologic factors in the production of diseased conditions in the eye, when we take into consideration the exposed position of the organ We have the moist surface of the conjunctiva presenting itself and furnishing an excellent lodging-place for all sorts of deleterious substances present in the air It is rubbed by soiled fingers, washed with impure water from rivers, creeks and ponds, wiped with soiled towels, handkerchiefs, and whatever else comes to hand Moreover, the slight alkalinity and small amount of proteid material contained in the normal secretions, as well as the fact that there are folds and crypts in the conjunctival membrane, favor the development of whatever germs accidentally enter But aside from all these means of infection, an even more dangerous source of contamination is from the nose by way of the nasal duct and lachrymal sac, the continuity of the mucous membrane between these structures furnishing an excellent means of conveyance for saprophytic and parasitic (pathogenic) organisms from the nose to the eye and vice versa Again, infection of the conjunctiva may occur from disease of neighboring bones and an inflammation of the sinuses, especially the maxillary sinus, or it may appear by the conveyance of micro organisms to the conjunctiva through the blood- and lymph-vessels in cases of diseases of remote organs

The various researches of Sattler, Michel, Fick, Weeks, Shongolowicz and many others, have clearly established the constant presence of numerous harmful as well as harmless bacteria upon the eye, and by this demonstration have shown a factor in prognosis which had not previously been considered

Among the diseases in which the causative rôle is played by bacteria, we note first acute catarrhal conjunctivitis, that this condition is of microbic origin there can be no doubt Gifford,[1] in an examination of forty cases of acute catarrhal conjunctivitis, ascertained the cause to be the pneumococcus of Fraenkel, which, according to the researches of Gasperini, as reported at the Eleventh International Congress in Rome, is shown to be one of the most frequent microbes that inhabit the conjunctival sac Gifford proved that the pneumococcus really caused the disease, by successful experiments in inoculating with pure cultures According to Weeks, acute catarrhal conjunctivitis is caused almost exclusively by a small bacillus which he was the first to study thoroughly, and his observations have been confirmed to a large extent by Moran and Beach In acute blenorrhea of the conjunctiva or purulent ophthalmia, the etiologic moment is the introduction into the conjunctival sac of some of the specific discharge from the urethra or vagina containing the gonococcus of Neisser Kroner[2] examined ninety-two cases of ophthalmia neonatorum and found the gonococcus with "perfect ease" in sixty-three of them In other cases it was difficult to find, but was successfully demonstrated Dr Th Gelpke[3] recently, in a very interesting article, reports the results of a bacteriologic investigation carried on in conjunction with Professor Migula in an epidemic of acute purulent ophthalmia After very careful observations they determined the cause to be the bacillus septatus Koch and Gaffke found in a highly contagious conjunctivitis small rods resembling those of mouse septicemia, and Kartulas succeeded in growing the same on agar as fine gray points, becoming confluent, making a stripe having a fatty appearance, which he considered as identical with the Leber-Kuschbert xerosis bacillus, but this Gelpke doubts after examinations of Leber's preparations Schmidt found a form morphologically resembling the albus, and Parinaud one resembling the gonococcus, which Morax identifies as the streptococcus

Another disease which, as we all know, is of bacterial origin, but which fortunately is rare, is diphtheritic conjunctivitis Here, in the majority of cases, we have the disease extending by the avenue previously neglected, namely, from the nose by way of the nasal duct and lachrymal sac Fuchs[4] says von Graefe observed many cases of diphtheritic conjunctivitis during epidemics of diphtheria in Germany, that "in lands where diphtheria prevails the disease appears, either sporadically or as an epidemic," that "at the time of an epidemic of diphtheria, other inflammations of the conjunctiva show a tendency to assume all at once a diphtheritic character" Fraenkel and Uhthoff have found that diphtheria bacilli are not uncommon in the conjunctival sac Escherich reports two cases in which diphtheria bacilli were found in the exudate In the same category as diphtheritic conjunctivitis comes tuberculosis of the conjunctiva caused by the bacillus tuberculosis of Koch This condition is usually secondary to general tuberculosis, but Cheney of Boston reported a case before the American Ophthalmological Society, 1896, where the primary lesion appeared on the conjunctival surface of the left upper lid, and presented a typic appearance Tubercle bacilli were found on microscopic examination The glands in front of the ear were affected when first seen Frequent examination of the chest failed to elicit any trouble in the lungs Patient disappeared from the clinic, May 26, and July 1, died of general tuberculosis The main trouble just preceding her death seemed to be in the throat E Franke reports a case where, in a seven-year old boy of healthy parents there appeared numerous blisters on the ocular conjunctiva, and little follicles in the retrotarsal fold of the lower lid, together with swelling of the pre-auricular gland of the right side In a piece taken for examination there were giant cells and tubercle A small portion of the excised conjunctiva was placed for experiment in the anterior chamber of a rabbit's eye, a tubercle of the iris formed in which bacilli were found In the case of the boy, the entire diseased spot of the conjunctiva was removed, together with the pre auricular gland For a year afterward the boy remained without eye disease

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[1] Archives of Ophthalmology, 1896

[2] Bericht über Sitzungen der gynäkologischen Section der 57, Versammlung deutsche Natur forscher und Aerzte zu Madgeburg, Vol ii 34

[3] Graefe's Archiv für Ophthalmologie, xlii 1896 p 97

[4] Fuchs Lehrbuch der Augenheilkunde S 93, 1887

Bacteriologic research in connection with xerosis or xerophthalmos has resulted in the discovery of a bacillus which is believed by many investigators to be the cause of the disease In the experiments conducted by Kuschbert and Neisser with this bacillus a moderate inflammatory reaction was obtained, while Leber describes a catarrhal condition of the conjunctiva which might be somewhat due to staphylococci present, and as previously mentioned, it has been confounded with the bacillus kartulis In short, the descriptions of the xerosis bacillus are, in its morphologic and biologic relations, somewhat conflicting, so that only carefully conducted observations and experiments will succeed in establishing it as the micro organism of xerosis

The first bacteriologic "arbeit" upon trachoma seems to have been done by Sattler,[5] who found small cocci of biscuit shape, joined in pairs but separated from each other by an intervening space, and in size and appearance much resembling the micrococcus gonorrheæ This organism, described by Sattler, though it resembles the gonococcus, is certainly a different organism Baumgarten and also Kartulis have taken exception to its specific action, by showing that it was absent in many cases of ordinary trachoma and in the cases of the virulent ophthalmia of Egypt While in Egypt in 1882 and 1883, Koch paid some attention to the ophthalmia prevalent there, and he reports that the cultivation experiments from the conjunctiva of these cases discovered the presence of the gonococcus and a tiny bacillus Michel[8] found in numerous cases of Egyptian catarrh a diplococcus much resembling the gonococcus, but smaller While both of these observers were in accord as to the shape and size of the organisms found by them, the latter alone was successful in his inoculations Schmidt[9] differed again, and continually found in the secretions small, perfectly round, isolated cocci without a dividing septum, surrounded by a clear, gelatinous area, and resembling the staphylococcus pyogenes aureus They occurred free and also in the protoplasm of the epithelial cells In this connection let us point out that the morphology of the staphylococcus pyogenes aureus is now well known to be exactly that which Schmidt rejects Schmidt found that the organisms which he observed readily induced trachoma in birds, which were very susceptible, but that mammals contracted the disease only after numerous repeated inoculations His studies were thorough, comprising sixty-three cases, in forty-nine of which this coccus was found

Kucharski[10] investigated twenty six cases of trachoma and found numerous bacteria, among which were staphylococcus pyogenes aureus, bacillus subtilis, bacillus mesentericus vulgatus, when these accidental organisms were excluded, his cultures all showed one characteristic organism This organism was a diplococcus of the size and shape of the gonococcus, possessed of a "springing movement" Sometimes it was seen to occur singly, sometimes in groups, sometimes short chains were observed, sometimes a figure 8 The description of his coccus is thorough and excellent Unfortunately, while it did not seem specific, he concluded to add it to the literature of trachoma Goldschmidt's[11] coccus corresponds very closely to that of Michel

Very remarkable results were obtained by Washejewski,[12] who studied thirty cases of trachoma in its various stages He found single cocci and groups of cocci enclosed in the lymphoid cells, the red blood corpuscles and the epithelial cells He was unable to find any other organisms The cocci thus enclosed in the cells resembled the gonococcus

Staderini[13] found a coccus much like the cocci already described Its morphology was very similar to that of the gonococcus Baumgarten investigated this organism and could not see that it differed from the staphylococcus pyogenes aureus

Wittram[14] studied thirty-nine cases of trachoma and discovered cocci similar to those of previous authors, but as far as he could determine, inoculation experiments were all negative in their results

Shongolowicz[15] introduced an interesting innovation in the etiology of trachoma by describing a specific bacillus which he found in seven out of numerous cases which he studied Inoculations of pure cultures of this bacillus under the skin of two white mice, one guinea pig and one rabbit gave no results Sixteen inoculations of pure cultures of the bacillus upon the conjunctiva of five rabbits, two dogs, four pigeons, one guinea pig, two white mice and two cats, were all productive, not of trachoma, but of a somewhat similar disease

Alt,[16] in a paper read at the last meeting of the Western Ophthalmological and Oto-Laryngological Association, entitled "Recent Researches in the Histo-Pathology of Trachoma," reports as the result of his investigations, which have been very thorough, the finding of a parasite which he deems the cause of the disease He found them in follicular conjunctivitis as well as in trachoma From the similarity of the climatologic conditions under which malaria and trachoma seem best to thrive, Elze,[17] like many another before him, drew the conclusions, that the same or similar cause must bring about both these diseases He observed, in one case, in the secretion, as well as in the granules, certain formations, which he thinks are monads and which he especially likens to the trichomonas batrachorum, and proposes to call plasmodia

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[5] Festschr zur Feier des 80 Jahr Stiftungsfestes des aerztl, Vereins zu Hamberg, Leipzig, 1896

[6] Bericht über die xii Versammlung der Ophthalmol Gesellschaft 1881

[7] Wiener Med Wochenschrift 1883 p 1550

[8] Archiv f Augenheilk, Bd xvi, 1886

[9] Dissert St Petersburg, 1887, Ueber die Mikroörganismen bei den Trachom und einigen anderen mykotischen Krankheiten der Bindehaut des Auges

[10] Bakteriologisches über Trachom, Centralbl f Prakt Augenheilkunde, 1887, xi, p 225

[11] Zur Aetiologie des Trachoms, Centralbl f Klin Med, 1887, No 18

[12] Zur Aetiologie und Therapie des Trachoms, Wojenno med Shurnal October, 1887

[13] Richerche sulla histologia e sulla patogenese de la conjunctivite trachomatosa Annali di Ottalmologia 1888

[14] Bakteriologische Beitrage zur Aetiologie des Trachoms, Diss Dorpat, 1889

[15] St Petersburger Med Wochenschrift 1890 N F Bd vii, p 247, Zur Frage vom dem Mikroorganismus des Trachoms

[16] American Journal of Ophthalmology Vol xv, No 4, p 97

[17] Berlin Gebr Borntraeger 1897

Thus the bacteriology of trachoma is of special interest, and, while the majority are inclined to the opinion that at the present moment we have no reason for regarding any bacteria as specific for trachoma, still no one will deny that the bacteriologic researches in connection with the disease have been productive of much good, as everything points to its being a germ disease, and as we have seen, there seems to be a pretty well established connection between trachoma and gonorrhea, and it is not improbable that the rôle played by the gonococcus is of more importance in the etiology of trachoma than is generally supposed

Passing to diseases of the cornea, careful observation and study go to prove that many corneal troubles are dependent directly or indirectly upon invading bacteria Leber has shown how serious may be the results of a growth of comparatively harmless organisms if once they secure a footing in the proper soil, and reason exists why we should believe that keratitis may result from ordinarily harmless bacteria should they gain entrance to the corneal layers Babes obtained from the broken down corneal tissues and from various organs of a child who died of septicemia following keratomalacia, a bacillus which he terms the bacillus septicus keratomalaciæ Cultures of this bacillus inoculated into the cornea caused purulent keratitis

The capsule bacillus of Loeb was also obtained from a case of keratomalacia infantum by inoculating media with a little of the softened exudate of the cornea It resembled the bacillus capsulatus of Pffeifer, but is said to be somewhat larger and thicker than the latter

Experiments with the bacillus of Fick,[18] which has been found in the conjunctival sac, showed that when inoculated into the corneal tissue the organism produced a distinct keratitis, and sometimes caused a perforating ulcer, which required about four weeks to penetrate the corneal tissues The work in this field has but just commenced, and bacteriologic research will undoubtedly reveal much which will be of value in connection with corneal diseases

There is one more disease which I must consider before closing this paper, first because of its importance, and second because it is recognized by all authorities to be directly produced by bacteria I refer to sympathetic ophthalmitis This affection, as we know, owes its name to the theory, held until a few years ago, that it was due to reflex action of the ciliary nerves Investigations made in recent years[19] have placed it beyond doubt, that sympathetic ophthalmitis is an inflammation propagated to the sympathizing eye by direct continuity through the optic nerves and chiasm from the exciting eye, as erysipelas extends over the skin, and that the staphylococcus pyogenes albus or aureus is the active element in the process

Time will not permit a further discussion of this interesting subject, and as I have repeatedly said throughout this paper, the work has but just commenced, and in view of the fact that besides the bacteria occurring in connection with the diseases mentioned, and which we have no right to deny is the direct cause of them, we have to deal with such bacteria as the bacillus coli communis, bacillus influenzæ, bacillus lepræ, bacillus of measles, bacillus pyocyaneus, bacillus syphilis, staphylococcus, pyogenes citreus and streptococcus pyogenes, some of which have been demonstrated as occurring in the conjunctival sac and we have no reason to believe that the others do not, I think we are perfectly justified in believing that bacteria are one of the chief etiologic factors in diseases of the eye

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[18] Ueber Mikroörganisms in Conjunctival Sac, 1887

[19] Knies Sitzungsber d Ophth Gesellsch , 1879 p 52 Leber A v Graefe's Archiv, xxvii, pt 1 p 325, Bailey Trans Internat Med Congress, 1881 Vol iii, Snellen Trans Internat Med Congress, 1881, vol iii MacGillivray Amsterdam Internat Med Congress, 1879 Berlin, Volkmann's Samml Klin Vorträge No 185 1880 Deutschmann, A v Graefe's Archiv, xxx, pt 3 p 77 xxxi pt 2 p 277 and Ueber die Ophthalmia Migratoria 1889 Gifford Archives of Ophthalmology, 1886, p 281 Randolph, in Arch of Ophthal Vol xvii, p 188, does not support the theory of extension of the process through the optic nerves and chiasma but he does not offer an alternative explanation

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CONCLUSIONS FROM CLINICAL AND BACTERIOLOGIC EXPERIMENTS WITH HOLOCAIN

Presented to the Section on Ophthalmology, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY ROBERT L RANDOLPH, M D

BALTIMORE MD

I have been using holocain for some months and have recorded here fifty cases where it was recently employed in the eye clinic of the Johns Hopkins Hospital Seventeen of these cases were foreign bodies in the cornea, and the average time employed to produce anesthesia was a little less than two minutes In three cases iridectomy was performed and in four cases cataract extraction Here I made the same number of instillations as I do when employing cocain, that is three in fifteen minutes, and all that can be said is that I noticed no difference in the anesthesia from that produced by cocain, and the same may be said of eight tenotomies The other cases were where the holocain was used after the application of silver nitrate, after the passing of probes, in operations for tarsal cysts and pterygia With the exception of the tarsal cysts the anesthesia was produced in a little more than two minutes Most of those who have reported on the subject of holocain have alluded to its germicidal properties I have looked through the literature, and with the exception of some very meager experiments made by Heinz, showing that the yeast bacteria are retarded in their growth by contact with holocain, have found no record of experiments proving that a solution of holocain is a germicidal one The following experiments were made to throw some light upon this aspect of the question

1 *To determine the effect of a 1 per cent solution of holocain upon the micrococcus epidermidis albus* (Welch) For this purpose thirty wooden toothpicks were sterilized by boiling for ten minutes They were then immersed for five minutes in a suspension of the organisms in sterilized water, afterward taken out and dropped into a 1 per cent solution of holocain Here they were allowed to remain fifteen minutes They were then taken out with long sterilized forceps and plunged each into a tube containing nutrient agar After being in the thermostat twenty-four hours they were inspected, and in every tube there was a luxuriant growth Control tubes showed that the pieces of wood were sterile before immersion in the suspension of organisms The growth in half of the tubes was examined and the micrococcus epidermidis albus was found in every instance Fifteen

experiments made with the staphylococcus pyogenes aureus resulted in the same manner In another series glass rods were employed instead of pieces of wood They were sterilized in the flame They were then dropped into a suspension of the aureus in sterilized water and allowed to remain there five minutes When taken out, instead of putting them directly into the holocain solution as was done in the first and second series, they were put into a sterile tube and allowed to dry thoroughly and then immersed fifteen minutes in a 1 per cent solution of holocain, after which each rod was plunged into a tube of nutrient agar The result was the same as in the first and second series

2 *To determine whether a 1 per cent solution of holocain has an inhibitory effect upon these same organisms* Five grains of holocain were dissolved by boiling in two drams of water, and to this were added six drams of fluid agar The resulting mixture was practically a 1 per cent solution of holocain Twenty tubes of "slant agar" were prepared in this way and ten "smear cultures" made of the staphylococcus pyogenes aureus and ten of the micrococcus epidermidis albus These tubes were inspected every day for three days but there was never any evidence of a growth This experiment was repeated a number of times by others in the laboratory as a control measure, and in every instance with the same result Neither the staphylococcus pyogenes aureus nor the micrococcus epidermidis albus would grow in a medium containing holocain in the proportion mentioned It may be said that a solution of holocain half the strength employed in these experiments does not inhibit these organizations The positive results of the experiments to determine whether holocain had an inhibitory effect upon the organisms would seem to indicate that some of the organs on the glass rods and pieces of wood in the first, second and third series were killed To determine this question the following experiments were made

A thick suspension of the staphylococcus pyogenes albus was made in physiologic salt solution Five loops of this suspension were transferred to a tube containing two drams of a 1 per cent solution of holocain, and five loops were transferred to a tube containing the same quantity of salt solution, the latter as a control measure After allowing the organisms which had been transferred to the holocain to remain there five minutes, two loops of the latter solution were carried into fluid agar and plate cultures made This was repeated after ten, fifteen, twenty and thirty-five minutes, and finally, after twenty-four hours In the first plate (after five minutes) there were fifteen colonies, in the second plate (after ten minutes) there were about the same number, in the third plate (after fifteen minutes) there were five colonies, after twenty minutes three colonies, after thirty-five minutes two colonies, and finally, after twenty-four hours, the plate was sterile This series was repeated and with practically the same result There was a gradual diminution in the number of the colonies, the longer the organisms were allowed to remain in the holocain, and after twenty four hours it was seen that the holocain no longer contained living organisms Plate cultures made after twenty-four hours from the salt solution showed numerous colonies

Conclusions —Holocain, in so far as its anesthetic properties are concerned seemed in these fifty cases to have been sufficiently effective In those cases where a test was made of the rapdity of its action, as for instance in foreign bodies in the cornea, in pterygia, and after the application of irritating substances the quickness with which anesthesia was produced was striking Whether the anesthesia produced after two minutes is sufficiently profound to guarantee a painless iridectomy or a satisfactory cataract extraction I did not determine, but in those cases where operations of this character were performed, and where the holocain was instilled just as we do cocoain, no difference was observed in the anesthesia from that produced by cocain The drying of the cornea and dessication of its epithelium, the dilatation of the pupil, the absence of which phenomena has been noted by others has been confirmed by my own observations The absence of these two properties should recommend it for office use for the removal of foreign bodies, as it is well known that after the employment of cocain in such cases blurred vision and slight photophobia are often present for hours

A 1 per cent solution of holocain has not only an inhibitory effect upon the pus organisms, but these organisms are killed when exposed to a solution of this strength for a certain length of time No attempt was made to determine the point of time at which these organisms lose their vitality on exposure to holocain, but it may be safely said that this point is somewhere within twenty-four hours Furthermore, exposure to a 1 per cent solution of holocain for periods of five, ten, fifteen, twenty-five and thirty-five minutes showed in every instance a gradually diminishing number of colonies in the plates, so that it is plain in spite of the luxuriant growth around the glass rods and pieces of wood many of the organisms were killed It may be said in conclusion then that a solution of holocain of the strength employed in ophthalmic practice possesses distinct germicidal properties, a fact which it is evident enhances the value of this product

DISCUSSION

Dr H V WÜRDEMANN, Milwaukee—I have been unable to make any experiments regarding the antiseptic properties of holocain solutions, but as far as my experience goes I should say its solutions are stable and antiseptic A solution which I had and kept for the purpose of seeing whether it remained aseptic, though opened from time to time during eight months, shows that the solution remains clear and that it is antiseptic I am pleased at the exhaustive character of Dr Randolph's paper, for it seems to prove the claims that Tauber, Heintz and I have made

As regards its clinical aspects I have had much experience having used it as a local anesthetic in almost all of my bulb operations during the last year I have done several hundred operations with holocain, from corneal and conjunctival to cataract operations I have found it similar in effect to cocain but it has several advantages It more thoroughly anesthetizes the deeper structures, and its effect is more lasting It does not affect the accommodation, the pupil or the tension It is quicker in action, and does not affect the epithelium of the cornea That is a most important point, one can anesthetize an eye for a half hour or an hour, leaving it exposed to the air, but keeping it moist from time to time, and will not find any erosion of the epithelium We use less of the drug than of cocain, the percentage of the solution being only 1 per cent., and it is hence proportionately cheaper

As a disadvantage, it is said that it is more poisonous than cocain I have not had any ill effects from its use on the eye, nose or fauces, but I have not used it hypodermically The bleeding is more free than under cocain, and it is not so good for muscle operations It is slightly more irritating, and I have had patients complain after the removal of a foreign body that the sensation remained for some time, which is not the case after the use of cocain Another disadvantage to those of us who boil our instruments in soda solution is, that it is necessary to wash the instruments in sterilized water, because the soda is precipitated and the solution becomes turbid

I should say, from my experience with it in about fifteen cataracts, seven iridectomies, four operations for glaucoma and a number of minor operations, that this drug is a most satisfactory local anesthetic, and I recommend it especially for office work

Dr E C Ellett, Memphis—I have had a little experience with holocain during the past winter, limited to its use in removing foreign bodies from the cornea and conjunctiva, and with cataract extractions associated with iridectomy I have done seven or eight cataract extractions in that time with holocain, all with iridectomy except one, which was iridectomized the next morning on account of prolapse Holocain seems to me to be a more satisfactory anesthetic than cocain, and I think the first drop often does not produce as much irritation as the first drop of cocain The fact that it does not influence the pupil or corneal epithelium is an advantage

Another class of cases in which I have used it are those small but painful corneal abrasions, the type in which the cornea of the woman is wounded by the nail of the nursing child, and we know how painful they are Knowing that holocain has no effect upon the corneal epithelium, and that it has a germicidal action we feel no hesitancy in putting it into the hands of patients for as liberal use as they may require

I have noticed two things which I do not know whether to attribute to the drug or to my preparation of it One is that after standing for some time the solutions acquire a delicate pink color, not so deep as eserin, but a faint pink It may be that this is due to some action of the holocain on the glass bottle in which it is preserved The other point is that in one case of cataract extraction the solution which I had used repeatedly did not produce anesthesia Not being able to get a fresh solution at once, I had to use cocain I later operated upon the other eye of that patient with holocain, and with satisfaction

People frequently come to the occulist with a foreign body and ask me to "take this out without cocain if you can, because it dilates the pupil so I can not work the rest of the day" It becomes a satisfaction then to have such an anesthetic as holocain

Dr C D Wescott, Chicago—I have been using holocain solutions for six months, and have two observations to make that may be of interest in this connection To test the rapidity of the anesthetic action of a 2 per cent holocain solution I used it in an extraction After cleansing the eye I applied one drop on the cornea, waited one minute and gave another, in one more minute applied a third and immediately made my section without any sensation to the patient After completing the section I applied another drop, waited perhaps forty seconds and did the irridectomy without the slightest evidence of pain

I am inclined to think, however, from another experience that holocain is not absolutely without deleterious effect upon the epithelium In a nervous, hysterical woman, where I was obliged to do a very tedious advancement, the tendon having retracted very far, I used a 1 per cent holocain solution The eye was exposed for thirty minutes and although I applied boracic acid solution repeatedly, when I came to take out the speculum I noticed a positive blur of the corneal epithelium The diameter of this spot was at least 2 mm , and touching it very gently with a smooth instrument, I demonstrated beyond doubt that it was separated from the substance of the cornea I cleansed the eye, bandaged it and no harm resulted I operated upon the other eye of the same patient two or three weeks later, using 5 per cent cocain solution, without any deleterious effect upon the epithelium, but the eye was not exposed more than fifteen minutes in that operation

Dr F C Hotz, Chicago—We are indebted to Dr Randolph for having conclusively demonstrated by experiment that a solution of holocain is and remains sterile for an indefinite time It is certainly a most valuable local anesthetic It is the ideal local anesthetic for removing foreign bodies, and to have such a remedy that we can at a moment's notice use, with the knowledge that it will not carry infectious germs into the eye, is of great value It has been stated so frequently that I need not now go over my experience, to bring out all the points about holocain One point, however, that should be mentioned is this, that it irritates more than cocain and in fact increases the congestion of the eye, and on that account I have noticed that in muscle operations there is more hemorrhage than after the use of cocain To obviate this bleeding, I have first used cocain to produce anesthesia and then kept it up by means of holocain, for I find that it will keep up a continuous anesthesia for any length of time needed, if instillations be repeated about every five minutes

Dr Frank Allport, Chicago—I would like to ask Dr Randolph if the holocain solution can be boiled without any injury to its efficiency?

Dr Randolph—Yes sir

Dr H M Starkey, Chicago—I am sorry we have not had a little more discussion of the first paper, which is certainly a valuable contribution to the subject I think, as we make more careful examinations of the cases that come before us with regard to their bacterial infection, we shall be able to classify them in a more scientific manner The attention of the section is called to a ready means of obtaining pus from patients that we see outside of our office It used to happen to me frequently to be called to see a case of purulent conjunctivitis or other infection at the patient's house, whence I had no means of taking secretion back to the laboratory, and perhaps on making another visit the conditions were found to be so changed that it was useless to take the specimen It is now my custom to have a few cover glasses constantly in my pocket I carry these in a very small tin ointment box and also have another box of the same size in which to carry the infected covers to the laboratory In this way a small drop of secretion may be easily and safely carried between two covers

Dr R L Randolph, Baltimore—I have been very much interested in what has been said by those who have used holocain, particularly in Dr Ellett's remarks We meet with cases in which cocain acts in the same way and where a general anesthetic is called for It is of great value to know that this agent possesses properties that are not only antagonistic to the growth of organisms, but that they can not live in it, for it actually kills these organisms

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FIVE CASES OF CONGENITAL, BILATERAL, SYMMETRICAL DISPLACEMENT OF THE LENS OF THE EYE IN THREE SUCCESSIVE GENERATIONS OF ONE FAMILY

Presented to the Section on Ophthalmology, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June 7-10 1898

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CHARLESTON, S C

Cases of congenital ectopia lentis may, for convenience of reference, be divided into three groups first, those occurring in one member of the family, second, those occurring in several members of the same family, and third, those occurring in one or more members of a family for two or more generations

The malformation is not commonly met with, as out of fifty thousand hospital and private patients of Knapp's in New York City, only ten (1 in 5000) were seen Notwithstanding this, however, illustrations of individual cases (group I) are quite numerous in literature, and probably number about a hundred

Examples of the malposition occurring in more than one member of the same generation of a family (group II) are also on record to the number of twenty Instances of the ectopia in several members of the same family for several successive generations (group III) are quite rare and far more interesting, and merit reporting from this standpoint no less than from the fact that they show in a remarkable manner the marvelous and fateful power of hereditary influence in the transmission of physical defects, as well as disease

A complete record of all such instances I am enabled to report below, through the courtesy of Dr David De Beck of Cincinnati, a recognized authority on congenital anomalies, to whom I am much indebted

D'Oench[1] in 1881, presented some valuable conclusions as to the nature, history, symptoms, etc, of congenital ectopia lentis drawn from the collated statistics of most of the hitherto published cases, belonging to the three groups I have mentioned He relates that the first cases of luxation of the lens recorded were reported by Sichel in 1846, but that these were no doubt spontaneous, Sippell[2] in 1859, being the first to draw the distinction between congenital and spontaneous luxation, illustrating the same by reporting the condition in his own, his mother's and his brother's eyes The influence of heredity was quickly recognized, though the exact cause remained for some time a subject for theory

Lang and Collins[3] assert that it is "due to some defect in the development of the suspensory ligament, caused by a failure or late closure of the ocular cleft in the ciliary region, so that as the eye expands there is no suspensory ligament to hold the lens down in that region, and it consequently becomes drawn in the opposite direction"

Five cases of bilateral, symmetrical, congenital dislocation of the lens occurring in three successive generations of one family recently having come under my observation, I have endeavored to present their salient features in brief detail, and at the same time to collect the history of all similar cases

The following are my own cases

Mrs H, Columbia, S C, aged 67, consulted me Aug 12, 1896, and claimed to have had defective sight from her earliest childhood Her vision, however, in spite of great difficulty in getting glasses to suit her, had been useful until recently, when it had become smoky The eyes of her parents were normal as far as she knew She had six children, only four living By means of either focal illumination or the ophthalmoscope the dislocation of the lens could easily be detected, in the right eye almost exactly, but only slightly upward The right lens was completely and the left partially opaque With the instillation of homatropin nothing further was observed, no threads or suspensory ligament folds being found Gray tremulous irides Patient could read with R E [illegible]/200 + 8 D Sph — [illegible] J 14 at 5 inch + 16 D Sph — No 9 With L E [illegible]/200 no glass improves, J = 14 at 5 inches no glass improves

Raab[4] asserts that congenital ectopia is one of the most frequent causes of spontaneous luxation, and D'Oench corroborates this by stating that the number of cases in which both congenital and spontaneous luxation have been observed make it almost certain that the latter is a frequent result of the former I judge therefore that the luxation of the right eye was at first up and out, but that the same changes which caused it subsequently to become opaque caused it to change its position In addition downward luxations are rare and unknown She received convex glasses and was dismissed

Mrs A W, of Charleston, S C, aged 35, a daughter of Mrs H was seen Nov 8, 1897 Mrs W is very myopic, and wears glasses She has three children, two boys, one girl

Vision in R E = 15/40 not tested with glasses J = 1 at 6 inches L E = 3/200 not tested with glasses J = 5 at 2 inches Brown tremulous irides, upward dislocation of both lenses

Albert W, aged 15 Brown tremulous irides Vision R E 2/200 not tested with glasses J = 7 at 1 inch Left eye 15/200 not tested with glasses J = 1 at 6 inches Dislocation of both lenses upward and outward

Theodore W, aged 12 Brown tremulous irides Vision R E 15/30 J = 1 at 6 inches Does not wear glasses Vision L E 15/30 J = 1 at 6 inches Slight upward dislocation of both lenses

Mary W, aged 8 Brown tremulous irides Upward dislocation of both lenses Vision R E 3/200 J = 5 at 1 inch L E 2/200 J = 5 at 1 inch No glass improves

D'Oench thinks that in those cases where no glasses improve the vision it is due, perhaps, to a "torpor of the retina, caused by indistinctness and interference of the images"

The indisposition of the patients to submit to any prolonged examination prevents more exact observations as to the proper corrections of the errors of refraction

In all the cases, the irides were tremulous, the anterior chamber appeared deepened in that part unsupported by the lens, the lenses were clear, except in the case of Mrs H Their size was normal, the suspensory ligament was not observed, the direction of displacement was as stated, upward, and upward and outward, the intelligence was of a high order the vision varied with a degree of luxation the tension, the cornea, as well as the shape and size of the globe and the fundus and disc even were all normal, no diplopia was complained of and there was no corectopia, irideremia, mystagmus, coloboma, detached retina or strabismus observed, the dilatation of the pupil in the two cases in which a mydriatic was used appeared normal

The following is a resumé of similar cases on record

Morton[5]—Ten examples, presumably in five successive generations Father, two sons, grand-daughter, her three sons, two children of one of these and one child of another Direction of dislocation in nearly all inward and upward

Bresgen[6]—Ten examples in three generations Mother, two daughters, a son free, but his son affected, one of the daughters with all six children affected Direction in all upward and inward

Keyser[7]—Nine examples in three generations Father, daughter and three sons, and the daughter's three sons and a daughter Direction downward and outward

Williams E[8]—Three examples in two generations A father, son and daughters Direction not stated

Sippell[2]—Three examples in two generations Dr Sippell himself, his mother and a brother Direction not stated

Dixon[9]—Four examples in two generations Mother and three sons Direction, two upward and inward, one inward, one upward

Tiffany[10]—Eight exa [illegible] genera Father and seven of his [illegible] Directi [illegible] varieties represented

Wordsworth[11]—Six examples in three generations Mother, two sons and three grandchildren Direction in all upward and outward

Parker, E F[12]—Five examples in three generations Mother, daughter and three grandchildren Direction in all upward, or upward and outward

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DISCUSSION

Dr W H Wilder, Chicago—I doubt if the time allowed us will be sufficient for all the work before the section and I think in this connection I will *briefly relate the cases of ectopia lentis* recorded in my paper A woman 39 years of age, came to my service in the Illinois Eye and Ear Infirmary, bringing her child, Maggie, 10 years of age, who complained of bad sight Examination showed a dislocation of the right lens outward and of the left lens outward and upward I examined the mother and found a dislocation of the right lens upward and outward, and of the left upward and inward I then had her bring all of her children for examination and two of the four living had dislocation of the lens The second child, Joe, aged 5 years, had both *lenses dislocated symmetrically* inward In all the cases the lenses were perfectly clear and transparent and the details of the fundus could be seen through the lens, or through the aphakic pupil In all the vision was considerably impaired and could not be improved by glasses, probably because the edge of the lens interfered so much

In all probability these are illustrations of dislocations occurring during three generations, because I found that this woman's mother was reported to have had very bad sight that could not be corrected by glasses

Dr Feanel B Tiffany, Kansas City—The Doctor has already referred to my cases and, as he stated, the displacement was upward and outward, except in one case, I think, in which the dislocation was inward As has been said, the lenses in these cases were perfectly transparent and when the pupil was dilated the vision was very much improved by glasses I recommended in these cases that an operation should be performed, the lenses to be removed, and I think the vision might have been very much improved if the operation had been performed and glasses adjusted, but I did not get the consent of these patients

Dr L W Fox, Philadelphia—I was very much interested in this report and I have just one thing to add, that is, concerning the difficulty in operating upon these cases Quite recently I attempted to perform one of these operations in the ordinary manner, but I found *it impossible to deliver the lens* in that way The fluctuation warned me that I should have a flow of vitreous and the lens would slip back, so I immediately took a Bowman scoop and delivered the lens

The peculiar formation of the lens was of interest A few years ago, you remember, I showed at the society four cases of black cataract In examining this lens I found it to bear the same characteristics In the course of time the patient had good vision with ordinary cataract lenses

Dr J E Minney, Topeka—I have had but one case and it was evidently *congenital*, though it was not seen until the lady was 35 years of age The dislocation in both eyes was downward and inward The vision could not be improved by glasses when I first saw her two months ago and I advised nothing else, as she had useful vision which enabled her to go about and do her housework Two weeks ago I operated upon her and instead of finding a lens I found a sac filled with whitish fluid I was determined to do something, and though I lost about one fourth of the vitreous I kept on until I got out that tough membrane On my way to this meeting I stopped to see that patient, but she did not meet me Her husband wrote that she was able to go out in the yard, could see the chickens and tell the difference in their sex, so she evidently had some vision

Dr H M Starkey, Chicago—I wish to report, so that it may go into the literature of the subject, some cases that I will publish more fully later on I had under observation a number of cases in one family, where I believe there was five children and their mother that had double ectopia lentis I showed three of the children and the mother at the Chicago Ophthalmological Society *Some of these eyes were highly* myopic, one requiring a 3 D or 4 D concave lens to obtain a good view of the fundus beside the lens

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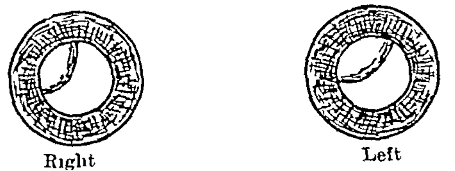
CASES OF HEREDITARY ECTOPIA LENTIS

Presented to the Section on Ophthalmology at the Forty ninth Annual
Meeting of the American Medical Association held at
Denver Colo June 7-10 1898

BY WILLIAM H WILDER, M D
Professor of Ophthalmology Chicago Policlinic Instructor of Ophthalmology Rush Medical College Surgeon and Pathologist to
Illinois Eye and Ear Infirmary Ophthalmic
Surgeon, Cook County Hospital
CHICAGO

The following interesting cases came under my observation in October, 1894, at the Illinois Eye and Ear Infirmary



Right Left

Fig 1—Mrs H, aged 39 years

Right Left

Fig 2—Maggie H aged 10 years

Right Left

Fig 3—Joey H, aged 5 years

Mrs John H, brought her daughter Maggie, aged 10 years, to the clinic because of poor eyesight, saying the child could not see well at school R V = 5/200, L V = 10/200, only slightly improved with a strong convex glass, + 12 D No concave glass was found that improved the sight

Examination revealed congenital dislocation of both crystalline lenses (Fig 2), the right being displaced directly outward to such an extent that its inner edge did not reach the center of the pupil, while the left was displaced outward and upward to nearly the same degree There was no opacity of the lenses and the details of the fundus could be seen either through the margin of the lens or through the aphakic pupil No sign of coloboma could be observed in any part of the uveal tract that was visible, nor of any other malformation or deformity, either about the eye or any other part of the body The child was well formed but mentally dull for her years

The mother, aged 39 years, then informed me that she herself had poor sight and was unable to get glasses that would benefit her Examination showed an ectopia lentis (Fig 1) The right lens was displaced upward and outward, the left upward and inward to about the same degree Both lenses were clear, as was also the pupillary space, so that the details of the fundus could be distinctly seen and no other deformities about the eye were observed R V =12/200, L V =5/200 Mrs H is a widow, born in Ireland, and has always been in good health Her father and mother are living in Ireland and are healthy She recalled that her mother had some defect of eyesight, she was very near-sighted and could not see small objects distinctly It is quite possible that she also has the same deformity She gives no history of syphilis and has had no injury of any kind She has four children living, three boys and one girl—our case—and four dead The living children are Maggie 10, John 7, Joe 5 and Tom 3 years of age

One boy older than Maggie died at 16 months, one child died at 3 weeks, one child between Joe and Tom lived 3 months and a baby younger than Tom died at 6 weeks

I told the mother to bring all her children for examination I found the eyes of John, aged 7, and Tom, aged 3, normal, and as near as could be determined with such young children, with normal visual acuity Joe, aged 5, however, showed the mark of heredity (Fig 3) Both lenses were symmetrically displaced directly inward, although not to the extent seen in Maggie's eyes The pupils were easily dilated with mydriatic, and as in the other cases, the lenses were clear and the interior of the eye, as far as it could be seen, was normal in appearance Vision could not be accurately tested, but seemed to be R =5/200, L = 8/200, with no marked improvement with glasses

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AN ADDITIONAL CASE OF DOUBLE CONGENITAL MICROPHTHALMOS

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo June 7 10 1898

BY CASSIUS D WESCOTT, M D
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CHICAGO

During a trip in Minnesota last September, I was asked by my friend, Dr E J Lewis of Sauk Center, to see Maxwell James, aged 2 years, who was said to have been blind from birth

Upon examination the child seemed to be in perfect health and his development was good for his age I have been unable to secure a photograph showing the condition of the eyes, but the one which I present will give a general idea of the little fellow's appearance The lids and orbits were normal The palpebral fissure of the left eye was not smaller than usual, but the lids of both eyes appeared sunken Both eyeballs were smaller than normal, the diameter of the cornea measuring no more than 6 or 7 mm in left eye and 5 or 6 mm in the right The iris was present in the left eye, but the pupil was not well made out, because of a small central opacity of the cornea, and the fact that the opaque sclera seemed to shade off into the cornea, leaving a narrow ring of clear cornea between an outer opaque ring and a central circular opacity The right eye was decidedly smaller than the left There was almost no clear cornea, the iris showing faintly through the almost opaque membrane The movements of the eyes were normal, but limited No cysts could be demonstrated in either orbit and the conjunctiva was smooth and free and gave no sign of past inflammation There was evidently vision in the left eye, for the child could see to get about, and was immediately attracted by bright objects held before it

The baby had always been perfectly well and presented no other physical anomaly The parents were Americans of the middle class, and had always enjoyed good health They had the appearance of health when I saw them, but both were spare and the mother did not seem to be especially vigorous She had borne but two children, gestation being without incident and delivery natural in both instances, but both children had been born blind The first, a girl, had died at 18 months, of some acute infantile disease, but up to that time had seemed well and normal, except that the eyes were almost exactly like those of the little boy, whose case I have just described

A careful inquiry failed to elicit any cause for these two cases of microphthalmos in the family, and the parents had no theory to suggest So far as the mother knew, or would tell, nothing had happened during the intra-uterine life of the infants which might interfere with their development Although an itinerant professor had promised to cure the eyes of the little boy, for $50 cash, in advance, I gave it as my opinion that little change was likely to occur, although it might be possible to slightly improve the vision of the left eye by iridectomy, if it should increase in size with the growth of the child

Treacher Collins has reported ("Transactions of the Ophthalmological Society of the United Kingdom," Vol xiii) two cases of congenital microphthalmos, in which he secured specimens and made elaborate examinations He divides these cases into two classes First, those in which the eyeball is simply abnormally small, i e, very highly hypermetropic eyes, in which, beyond the defect in size, there has been no arrest in development Second, those cases in which the eyes, besides being small, have some other congenital abnormality, resulting from imperfect closure of the fetal ocular fissure This last class may again be divided into those where there is only a slight defect, and where the eyeball retains nearly its normal shape, and those in which the accompanying abnormality is very gross, the eye being usually exceedingly small, while connected with it are one or more cysts These cysts are often large, sometimes concealing the globe, which is situated at the back of the orbit, so that its presence can not be ascertained by clinical examination alone

His first case was of the class to which my own probably belongs, and I trust you will pardon me if I quote his report

> The patient was an infant who died when four days old, from congenital heart disease The aorta and pulmonary arteries formed one common trunk, and there was a defect in the ventricular septum The right eyeball measured 19 mm, antero posteriorly and laterally, and 8 5 mm vertically There was a small prominence in the sclerotic posteriorly, immediately below the optic nerve The iris was well developed, but several delicate fibers stretched across the pupil, evidently remnants of the pupillary membrane The ciliary body presented its usual appearance The lens was in its normal position and the vitreous appeared healthy The retina had

numerous little rucks in it At the seat of the prominence below the optic nerve there was a gap in the sclerotic, through which a fold of retinal tissue projected

Microscopic examination revealed no central blood vessel in the optic nerve The nerve fibers, after having passed through the lamina cribrosa, all sloped somewhat downward, the upper ones afterward curved backward to the upper part of the retina Below the optic nerve there was at first no retina, no uveal pigment layer and no choroid, only a mass of nerve fibers with fibrous tissue external to them This fibrous tissue, representing the sclerotic had, a short distance from the lower margin of the outer optic nerve, a break in its continuity Into the gap thus formed the nerve fibers passed, expanding somewhat after they were through it and becoming mixed with bodies like those found in the nuclear layers of the retina, external to this nerve tissue was a thin layer of fibrous tissue On the side of the gap in the sclerotic, farthest from the nerve, the retina commenced with its usual layers, being continuous with the nerve fibers emerging from the gap, around the edge of which, also, the uveal pigment layer turned The tunics of the eye were traced forward from the break in the sclerotic The retina was at first seen to possess its usual layers, the uveal pigment was present, also the choroid, which, however, was more cellular than normal and devoid of pigment A short distance farther on the choroid ceased and the uveal pigment layer became an unpigmented layer of cells

The left eyeball measured 18 mm antero posteriorly, 18 mm laterally and 16 5 mm vertically The cornea measured 8 25 mm latterly and 7 5 mm vertically There was a prominence in the sclerotic posteriorly, below the optic nerve, more pronounced than in the right eye There was a small coloboma of the iris downward The lens was situated nearly in the center of the globe, a considerable space being left between it and the posterior surface of the iris, it was almost globular in shape, measuring 5 mm antero posteriorly and 5 5 mm laterally The ciliary process, thin and much elongated, passed almost directly backward toward the sides of the lens In the center of the vitreous was a band of fibrous tissue, which passed forward from the back of the globe below the optic nerve to the posterior pole of the lens, this band was broad posteriorly and gradually tapered off as it passed forward Around this central band the vitreous appeared normal The retina had some small rucks in it Below the optic nerve, in the situation of the prominence seen externally, a fold of retina seemed to be included in a gap in the sclerotic

Microscopically the structure of the cornea appeared normal In the position of the coloboma of the iris the uveal pigment ended about on a level with the point of termination of Descement's membrane in the fibers of the ligamentum pectinatum The fibers of the suspensory ligament, passing from the much elongated ciliary processes, sloped backward and a little inward to the sides of the displaced lens, which was very rudimentary in structure The ciliary body, choroid, uveal pigment, and retina in the upper part of the eye appeared healthy In the lower part, the ciliary muscle was much elongated, and the choroid could only be traced backward as far as the equator of the globe, its posterior part being absent The uveal pigment layer, just previous to the termination of the choroid, was thrown into several folds, from this position it was continued backward, first as a layer of unpigmented cells, and afterward as tissue which looked like degenerate retina The band of tissue passing through the center of the vitreous was composed of bundles of nucleated fibers, with small blood vessels coursing among them, it was adherent posteriorly to the sclerotic, and anteriorly, where it was very thin and reduced to but a few fibers, it joined the posterior capsule of the lens The vitreous was continuous with it at the sides There were no central blood vessels in the optic nerve, all its fibers, after passing through the lamina cribrosa, bent directly downward, the upper ones curving round again to the retina above, which began in a fold The lower ones seemed to end abruptly at the band of fibrous tissue which passed forward through the vitreous Below this band of fibrous tissue some very degenerate looking retina, consisting mostly of nuclear bodies, was seen embedded in a gap in the sclerotic The retina in the lower part of the eye had its inner granular separated into two, some fibers separated by spaces running transversely between them

Hirschberg reports (*Berliner Klin Wochenschrift,* 1870) the case of a girl of three months, with double microphthalmos She was well developed, but her eyeballs, though well formed, were very small The horizontal corneal diameter on both sides was about 5 or 6 mm There was coloboma of the right iris, below and inward, and persistent pupillary membrane In the left eye there was luxation of the opaque lens downward, and a persistent hyaloid artery The fundus showed an extensive discoloration (coloboma) The child continued to develop and the eyes grew somewhat larger, but no perception of light could be discovered The parents were perfectly healthy

Rindfleish described (*Archiv f Ophthalmologie,* Leipsic, 1891) a case of bilateral microphthalmos, with cystic posterior ectasia, complicated with hydrocephalus The ventricles were dilated, the cerebellum was cystic and the hemispheres of the cerebrum were separated from the cranium by a collection of subarachnoid fluid The irregularities of the base of the skull had been obliterated by internal pressure The roofs of the orbits were concave upward, and the orbits thus depressed contained microphthalmic eyeballs, with connecting cystic structures

Williams of Boston has reported (*Boston Medical Journal,* 1850, Vol xliii, page 421) a case of microphthalmus, complicated with congenital cataract of both eyes, in a boy 13 years of age The entire globe was extremely small, and much sunken in the orbit The iris, in both eyes, was hardly more than half the average size in a new-born infant, the pupil scarcely larger than a mustard seed The entire field of the pupil in the right eye was occupied by a cataract, apparently formed by the capsule only, the lens having been absorbed The pupil of the left eye presented an opacity covering nearly its entire area, but a small point existed toward the temporal side, which was not occupied by cataract, and the opacity was less white than in the right eye Dr Williams successfully operated upon the cataracts, but with what result as to vision I am unable to say

Bernheimer reports (*Archives of Ophtholmology,* 1894) a remarkable case of hydrocephalus internus, in which the eyes of the patient were normal in external appearance, but very small The muscular and lachrymal apparatuses were normal in both The left pupil was not circular The axis of the left eye measured 12 mm, and lying to the lateral side of the optic nerve was a cyst 6 mm long, filled with clear fluid The right eye was continued posteriorly in a thick stalk, and was about the size of the left In place of the nerve was a sheath containing but a single vessel, and to its lateral side was a cyst continuous with the posterior and inferior portion of the ball The lens was small, egg-shaped and cataractous The retina was completely detached and much folded The optic nerve had a peculiar appearance, and nerve tissue could scarcely be found A third of the nerve tissue was converted into an egg-shaped cyst, communicating by a narrow cleft with the cavity of the eyeball The pigment epithelium and the choroid were normal and in position Near the choroidal ring the choroid was somewhat thickened and choroidal pigment was traced back to the wall of the cyst

FitzGerald reported (*British Medical Journal,* 1886, Vol ii, page 1385) a case of double congenital microphthalmos to the Royal Academy of Medicine in Ireland, and exhibited the patient There were two undeveloped globes, with cornea and iris, but little or no anterior chamber, illumination of the fundus was impossible The father of the child thought it could see when light was brought into the room, but after having several times made trial with both lamp and ophthalmoscope, Dr FitzGerald was unable to satisfy himself that the child saw anything The mother in this case gave a history of a fright during gestation, but at what period was not stated

Brailey reports (Transactions of the Ophthalmological Society of the United Kingdom, Vol x, page 139) a case of double microphthalmos, with defective development of the iris, in a patient with imperfect teeth and arms, seen at Guy's Hospital Vision of the right eye equalled fingers at 10 feet, and the field was much narrowed all round Tension was +1 and the eye was myopic about twelve diopters Vision was not improved by lenses The cornea was small, about 9 m m in diameter The iris was absent except a narrow crescentic piece in the inner side, which occupied about two-fifths of the circle The lens was in situ Its diameter seemed to equal that of the cornea The disc was cupped and had a myopic crescent to the outer side, and opaque nerve fibers to the inner side Vision of the left eye equalled fingers moving Tension was +2 and the eye was myopic The cornea was the same as in the right eye The iris was wanting except for three small isolated bits with rounded edge, situated on the inner side of the vertical line The disc was cupped

De Vincentiis of Pavia, reports (*Ann di Ophth*, Vol xiv) a case of congenital bilateral microphthalmos, with defective development of the heart Mayer described a case of microphthalmos with cysts in the lower eyelids Ginlini reports (*Ztschr f Vergleich Augenh*, Wiesbaden, 1891) a case of double congenital microphthalmos in a dog four weeks old Holtzke (*Archives of Ophthalmology*, Vol xii) made careful studies of the eye of a rabbit with coloboma of the iris, ciliary body and choroid, and general microphthalmos He closes his report as follows "The explanation of the above described changes is very simple There have evidently been extensive inflammatory processes in the eye, and I see no reason why we should not adopt Deutschmann's view (*Klin Monatsbl f Augenh*, March, 1881) that the arrest of development is only a changed development of the eye in consequence of an intra-uterine inflammation This inflammation has probably taken place in the latter half of the third week, the fetal fissure was nearly closed, or after having been closed, was again opened, the iris, on the other hand, had not begun to develop Why this inflammation was just at this fissure, which is so important for the development of the eye, can not be decided, unless it was favored by the greater vascularity of this neighborhood '

Hess reports (*Archiv f Ophth*, Bd xxxiv) and gives details of the microscopic examination of a series of microphthalmic eyes with colobomata he found in his cases no sign of past or present inflammation and concludes that it has very much less to do with the production of congenital malformation than is generally assumed

As I have no specimen to present, and have had no opportunity to make pathologic studies of microphthalmic eyes, I have no theory to offer as to the causation of these anomalies The appearance of the eyes in my own case would cause one to think immediately of an inflammatory process

31 Washington St

DISCUSSION

Dr Casey A Wood, Chicago—I have had personally no experience in these cases outside of some studies that I made with Mr Lang of London a number of years ago, when an attempt was made to show that cases of true anophthalus, one of the divisions of microphthalmus, was not possible As was declared some years ago, careful dissection will discover some parts of the eye and in considering the embryology of the eye it would seem strange to think that entire absence of the eye was possible The experience we had seemed to prove that we only have cases of true microphthalmus to deal with and that there is always some trace of the ocular structures to be found in the cranium

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EXPERIMENTS IN THE USE OF ALUMINIUM FOR ARTIFICIAL VITREOUS

Presented to the Section on Ophthalmology, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo June 7-10 1898

BY D C BRYANT, M D

OMAHA

Some two years ago, after experimenting with several other kinds of material for an artificial vitreous, I commenced the use of aluminium for this purpose, and so far have met with nothing but very satisfactory results in its use In the beginning of my experiments a complete hollow ball was used, and the results were about the same as are secured by the use of the glass ball, that is, good results in a majority of cases, with an occasional case in which, sooner or later, the ball was extruded The fact that this unfortunate result would occasionally occur, led me to try the experiment of using a frame instead of a complete ball, allowing the cavity to fill up with granulation tissue These experiments were carried on with dogs, and proved fairly satisfactory, the failures, when they did occur, being due to infection, which is very difficult to avoid when the subject is a dog After allowing the frame to remain in the place for from six to ten weeks, the dogs were killed and the new stump examined The frames were found to be partly or wholly filled with new-formed tissue, and a slight amount of tissue drawn in from outside The frames, which were allowed to remain in place ten weeks or more, were practically completely filled, though in none of them had new tissue formation entirely ceased Through the kindness of Dr J S Foote, Professor of Histology and Pathology in Creighton Medical College, I am enabled to give a report of the result of a microscopic examination of the contents of one of these frames, which had remained in position eight weeks The report is as follows

Having completed the microscopic examination of the contents of the metallic eyeball which you presented, I submit the following report After cutting the ball in two, transversely, sections were taken, cutting from the metallic rim to the center of mass Beginning at the outer side of the specimen there are to be found the following areas 1, a layer of new connective tissues, in which are a great number of incompletely developed cells and new blood vessels 2, bundles of striped voluntary muscle running perpendicularly to the general direction of the fibers of the mass within The muscles are not new, and between them are found leucocytes The muscle is attached to the main mass by a connective tissue layer which is vascular 3, a layer of connective tissue fairly well developed, in which are many blood vessels and spindle, branching and irregular cells Intercellular substance complete 4, a dense area of blood capillaries, between which are many new embryonic cells 5, an area of delicate new connective tissue, in which the cells are the most *prominent* part, and the wavy character of the intercellular substance is less apparent than in the adult stage 6, an area of blood vessels and new embryonic cells, exhibiting elongation in one or two directions characteristic of a developing connective tissue Intercellular substance not developed From the above it would appear that the contents of the metallic eye ball are made up of tissues drawn in from the outside and hence, adult in character, and tissue generated from within, and, therefore presenting the phases of new tissue development.

This report of Dr Foote's corresponds with the macroscopic appearances presented by these stumps after removal There is always more or less drawing in of the surrounding tissues, while the main part of the cavity is filled with apparently new tissue I have used the frame in sixteen and the complete ball in four cases in human beings Three fourths of these cases were such as to require, from one cause or another, an enucleation instead of evisceration In the cases of *enucleation* there was little more reaction than follows the ordinary enucleation, the recoveries being quite rapid, without complications whatever In the eviscerations the healing process was considerably prolonged, in one case extending over three months before all irritation had subsided In all of the cases where the frame was used, everything has gone all right so far, there having been no after-trouble, *no tenderness or irritation* in the stump, and each patient wears an artificial eye with perfect comfort In one of the cases in which the ball was used, after evisceration, the patient returned a year after the operation, reporting that the ball came out about ten months after he was discharged from hospital

I am fully aware that the short time, the few experiments and the small number of cases reported here, do not prove that there are not serious objections to the use of the aluminium ball or frame but the results are good enough, I believe, to warrant the continuance of their use until such objections, if they exist, become manifest The aluminium has two qualities superior to glass, being both lighter and stronger Other things being equal, these two qualities alone would make it preferable to glass, either in the shape of ball or frame For the frame, I think it can fairly be claimed that if once healed in and filled with connective tissue there can be little or no danger of its sloughing or popping out, as will happen occasionally with the ball, whether it be of aluminium or glass The frame as used by me now is made up of a ball with a complete front and fenestrated sides and back These, of course, can be of any size to suit the individual case The technique of the operation and after-treatment, whether the case be one of evisceration or enucleation, is the same as when the glass ball is used, so no time will be used here in their description The one thing that I would insist upon, in the after-treatment, is the free and prolonged use of cold applications

DISCUSSION

Dr W L Fox, Philadelphia—There is one point in Dr Bryant's paper that I did not understand, that is whether these balls are used only in implantation or also in evisceration

Dr Bryant—I have used them both ways

Dr Fox—The point at issue is this, that in proper evisceration I fail to understand how new formed tissue could find its way into these balls, for in the proper Mule's operation the margins of the sclerotic are brought so well together that they close up and become a solid mass I am glad the Doctor has brought up the question of implantation, for I consider it one of the greatest advancements in ophthalmology Every ophthalmologist finds ten or twelve years after enucleation a cicatricial contraction of the tissues of the orbit, and there I have found the implantation of great value In a case reported two years ago I implanted a glass ball where I could not think of anything else to do do, and it proved to be sufficient to hold the artificial eye and pleased the patient so well that I was led to continue the operation So, today where by any chance I am obliged to enucleate I immediately put in a glass or silver ball I have found that in nearly every operation we can succeed in making a good artificial stump and it is wonderful what excellent movement follows It is not as good as the Mule's operation, but it is of great value, for it fills out the artificial eye and the secretions are not retained in the sac but are thrown off, and for this class of patients it produces a heaven on earth

In an article which will be published shortly in the *International Clinics*, to illustrate the position the glass ball attains I have had these X ray photographs taken (exhibiting skiagraphs) I want to encourage the gentlemen of this Section to try two things, first, the Mule's operation, and second, the implantation You will have some difficulty at first in the technique I am not perfect in it myself, though I have done 125 operations I have lost four cases, that is, the glass balls came out, and why I can not tell Instead of using a No 4 silk I now use the most delicate silk, the 0 or 00, and I believe it the best Immediately after the operation I saturate a piece of cotton with 1 to 500 chlorid solution, bandage that over the eye and do not open it from forty eight to seventy two hours At the end of that time there will be a slight excoriation of the skin but no pus and no reaction, with positive success

Dr W Montgomery, Chicago—I would like to ask Dr Fox what his preference is, in implantation, between glass and silver balls?

Dr Fox—I have no preference whatever and it is simply a question of expense to the individual, as the silver balls cost $1 75 and the glass balls 5 cents I think it is almost impossible to break the glass balls, for in one of my cases a boy was struck in the eye by a cow's horn and the ball did not break Unless, then, a bullet be shot into it I think it would be practically impossible to break the glass ball

Dr W H Wilder, Chicago—I would like to ask Dr Fox, who has had so much experience in this matter, whether or not in following up any of these cases of Mule's operation he has had any cases of sympathetic ophthalmia, or has known of any that have occurred?

Dr Fox—I have not had a single case of sympathetic ophthalmia, and I may state here that I have had recently two or three very interesting cases In one there was evidence of sympathetic ophthalmia beginning—the ciliary injection, the keratitis punctata and the dimness of sight all being present I saw in that case that the fight was on, and it was just at that point where it required a great deal of bravery on my part to do a Mule's operation I remembered that Carter of London had had a similar case and I settled the question by following him and performing the Mule's operation In justice to a brother practitioner I must say that he had seen the case and had already started in with heavy doses of mercury, so it may be that the case was at that time on the turn At any rate three days after the operation the symptoms of sympathetic inflammation had disappeared in a measure and the patient continued to improve I continued the mercury treatment, of course, giving inunctions as well as 1/10 of a grain calomel three times a day In another similar case, but not so pronounced, I performed the Mule's operation and the symptoms disappeared So these two cases convinced me that I need not be afraid to perform this operation even when sympathetic symptoms are already present

Dr Harold Gifford, Omaha—It does not seem to me that the distinctive features of Dr Bryant's balls have been sufficiently appreciated This framework gives a hold for the sclerotic, as it contracts down and is much less likely to be expelled than a complete sphere I can claim a slight share in this improvement, because when Dr Bryant first used aluminum he had ordinary spheres made, but complained that he could not get them made without a hole in them It occurred to me that the hole might be a good feature and I suggested that it might be a good plan to have more than one hole made for the tissue to grow into

Dr Bryant—Dr Fox has the advantage of us in the wild and woolly West in that he has seen many more cases The most of my cases are seen in working men injured in the railroad shops of my own city, and in the usual year we have perhaps ten to twenty cases That is all that I have had the chance to see in the last two years The aluminum ball has the advantage over the silver in that it costs only 4 cents unpolished, and a few cents more for the polishing It is even lighter than the glass ball and is stronger

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GONORRHEAL CONJUNCTIVITIS AND IRITIS

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10, 1898

BY FRANK S MILBURY, M D

OPHTHALMOLOGIST, OTOLOGIST AND LARYNGOLOGIST TO THE BEDFORD DISPENSARY AND HOSPITAL AND THE NORTH BROOKLYN EYE EAR AND THROAT HOSPITAL
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Gonorrheal conjunctivitis, or gonorrheal ophthalmia is one of the most serious inflammations met with in the eye It in produced, usually, by the direct transmission of pus from a gonorrhea into the conjunctival sac It finds its way to the eye from a urethral or vaginal gonorrhea, or from a similar inflammation in some other eyes, so that the inoculation may either be from the individual himself, as is most commonly the case, or by some one else whose towel has been soiled by the discharge and used subsequently by the patient Such pus is known to acquire its virulence from the presence of characteristic micro-organisms to which the name of gonococci is given

The first symptoms may begin within from two or three hours to three days after inoculation The appearance during the first day may be such as to suggest merely an acute attack of simple conjunctivitis More frequently the rapidity with which the symptoms set in, and especially the early appearance of more or less chemosis, excites suspicion, and leads to the detection of the source of inflammation Considerable differences exist in the length of time before the inflammation reaches its full height and leads to a copious purulent discharge What is usually distinguished as the first stage, in which only a watery and slightly mucoid discharge—often considerable in amount — takes place, may last a couple of days or more, or may rapidly pass on to chemosis, due to a fibrino plastic exudation beneath the conjunctiva and to intense redness and swelling of the lid In the most severe cases the infiltration of the conjunctiva is so great that the latter in places appears no longer red, but grayish-yellow, because, as in diphtheritic disease of the conjunctiva, the vessels are compressed by the bulky exudation, and the conjunctiva is thus rendered anemic The conjunctiva forms a tense, grayish-red wall about the cornea Quite often the surface of the conjunctiva is found to be covered with clotted exudate like a croupous membrane The secretion produced by the conjunctiva is like meat-juice, that is, it is a serum which is colored by admixture with blood, and in which float some flakes of pus

The eye is uncommonly sensitive to contact, the lymphatic gland in front of the ear is swollen, and there is some fever and pain, burning and neuralgic in character, photophobia and lachrymation are constant, and increase as the tension of the swelling of the conjunctiva and lid becomes greater The swelling of the upper lid generally reaches such a degree as to cause it to hang down over the lid, and to assume a red, glossy appearance on its surface It is then perfectly impossible for the patient to open his eye, or even to raise the lid to any extent with the finger The full height of the inflammation is generally sustained for from one to three days, after which the swelling begins to diminish and the lid regains some of its natural wrinkling, and the circulation in the conjunctiva becomes freer Simultaneously with this there begins a very profuse secretion of pus, which strikes out continually from the palpebral fissure

In the further course of the disease the swelling of the conjunctiva keeps constantly diminishing, the eye in many cases returning to the normal state within the next four or six weeks In most cases, however, a condition of chronic inflammation of the conjunctiva remains, which is designated as the third stage of the disease—the stage of chronic blenorrhea

Some cases—and often, it would appear, the less severe ones—in which the palpebral conjunctiva is much more affected than the ocular, so that the absence of marked chemosis renders corneal necrosis much less imminent, gradually lapse into a chronic state In these cases the conjunctiva often remains enormously swollen for months, the tarsal portion assuming a thick and more or less velvety appearance, while the retrotarsal folds present large fleshy elevations and furrows, which protrude into prominence when the lids are everted Not infrequently this leads to ectropion The lower lid is more often ectropic, doubtless on account not only of the smaller size of the tarsus, but also on account of the thickening of the skin produced by excoriation by the overflowing tears and secretion Occasionally, however, the upper lid is everted as well, the everted portion being hardened and encrusted if not properly attended to

The most dreaded complication of blenorrhea is the involvement of the cornea, by which, in many cases, incurable blindness is produced At first the cornea becomes dull and covered with a slight diffused opacity Then circumscribed infiltrations of grayish color make their appearance, which soon become yellow and break down into ulcers These infiltrations may be situated at the margin of the cornea and may give rise to a speedy perforation of the latter, and this may prevent the destruction of the whole cornea In some cases, however, these infiltrations may form a ring around the cornea and become confluent, producing thereby an annular abscess In that event the cornea is lost, for this ring soon spreads over the whole cornea and destroys it, which usually happens in the most severe forms Sometimes corneal ulcers are not developed until late in the disease, when the blenorrhea is well on the retrograde path

The prognosis of the affection depends upon the condition of the cornea and the severity of the case

Treatment —First, the great importance of warning patients suffering from gonorrhea, or, in the case of women, from any other discharge as well, of the danger to their own eyes and to those of others living in the same room, in using towels, sponges, etc , in common, and of the consequent necessity of absolute cleanliness can not be exaggerated One of the most important conside[illegible]s when only [illegible] is affected—and t[illegible] is the [illegible] to protect the [illegible]atio always be done by tying it up in the following way The lids are gently closed and kept so by two or three strips of courtplaster The hollow between the nose and eye is then filled up with absorbent cotton, over this a piece of guttapercha tissue is placed and the whole bound down along the edges with strips of closely-fitting adhesive plaster

Special care must be taken that this adheres well along the nose, and the patient when in bed should lie as much as possible on the side of the affected eye, to prevent the discharge from trickling over to the other side and possibly loosening the plaster, if it is properly applied there is, however, not much fear of this Before tying up the sound eye it is well to thoroughly wash it out with an antiseptic solution of corrosive sublimate, 1/6000 to 1/4000 In this way the effect of inoculation, which may have taken place shortly before the patient seeks advice, may in some instances undoubtedly be neutralized

It is certainly very trying for the patient to have the good eye occluded from vision at a time when the other, owing to the great swelling of the lid, is temporarily useless He is thereby rendered very helpless and unable to go about alone, so that his spirits, generally depressed as he is, are not raised by his being put entirely in the dark On this account it is well, where this is possible, to protect the sound eye in a manner which does not altogether interfere with its use This may be done by strapping a small watch glass over the eye Dr Buller's method This plan has the advantage of allowing one to observe the sound eye all along, and therefore the shield can be left on continually, whereas the ordinary occlusion bandage has frequently to be reapplied After this is done we turn our attention to the inflamed eye The treatment to be adopted will depend on the stage of the inflammation and the state of the cornea When the discharge is only serous and the chemosis slight, pretty frequent washings with corrosive sublimate solution (1 in 5000), and ice compresses, frequently changed, may be used, and the patient's room well ventilated and slightly darkened When the inflammation comes to its acme, ice may be discontinued, and nothing used but the antiseptic wash and a little vaselin smeared along the edges of the lids Local bleeding is recommended, but it is of doubtful use, still, it may be tried The method generally in use is to make a large cut across the outer canthus with a pair of scissors This at the same time tends to relieve the tension of the swollen lid on the eye At this stage it is almost impossible to evert the upper lid, so that any attempt at the local application of caustic solution is neither desirable nor always possible The cornea must be cautiously watched, and any symptoms of loss of vitality counteracted, if possible, by free incisions in the chemosed conjunctiva However, this treatment is not always efficacious in arresting the dreaded complication, owing not only to lack of nutrition by pressure on the anterior ciliary vessels, but to actual stasis in them As soon as the upper lid can be everted without much difficulty, an application of nitrate of silver (5–10 grains to 1 oz) should be made once or twice during the twenty-four hours, with the object of restraining the discharge and reducing the risk of subsequent inoculation of the cornea Any ulceration of the cornea appearing at this stage may be treated by applying directly to it the same caustic solution, unless it has begun to heal, when care should be taken that the nitrate of silver does not come in contact with it Free exercise in the open air is desirable Atropin to relieve congestion, the bowels kept free, good diet, and opiates when sleep can not otherwise be obtained, constitute the treatment

Gonorrheal iritis develops in those cases in which gonorrhea has given rise to a general infection, it is closely allied to rheumatic iritis, but is an exceedingly rare form The inflammation is always severe, and the cause, owing to coexisting inflammatory changes in the joints, is apt to be overlooked Gonorrheal iritis always seems to occur in both eyes, though not always quite simultaneously, and it may be with different degrees of severity in the two eyes Successive attacks of gonorrhea are sometimes accompanied each time by iritis, and in other cases, although no fresh inoculation takes place, a return of the joint affections may be accompanied by a recurrence of the iritis as well The local treatment is the same as for other forms of iritis Potassium iodid in large doses seems to be the best general treatment at first, followed, as the inflammation subsides, by quinin and iron

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COLPOPERINEORRHAPHY AND THE STRUCTURES INVOLVED

DEDICATED TO DR THOMAS ADDIS EMMET AND MR LAWSON TAIT,
IN RECOGNITION OF THEIR LABORS IN THE SURGERY
OF THE PERINEUM

BY BYRON ROBINSON, B S, M D
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Continued from page 650

GENERAL VIEWS

As we employ perineorrhaphy to repair uterine prolapse (sacropubic hernia) as well as deficiency of the external sphincter apparatus, the subject covers a vast field All kinds of genital supports—peritoneal, fascial and vaginal sphincter apparatus—must be considered To have prolapse, both peritoneal and fascial supports must yield, as well as the occurrence of muscular relaxation No one support to the exclusion of all others can be claimed for the uterus

The utero-rectal (sacral) ligaments which consist of peritoneal duplicatures, containing fibro muscular tissue, are very efficient uterine supports The peritoneum itself, on account of its intimate connection to the pelvic viscera and fascia, doubtless gives considerable support

The round ligament, with its peritoneal duplicature, the broad ligaments holding some muscular fibers, and the vesico-uterine ligaments all assist in supporting the genitals In the consideration of sacropubic hernia, the intra abdominal pressure, the state of the abdominal walls, as well as the visceral supports, should be weighed Whether the patient has enteroptosis is a very significant question The peritoneal duplicatures, with their contents, constituting mesenteries of the genitals, elongate in enteroptosis just as they do with the stomach, kidneys, intestines and other viscera It is not uncommon to find a uterus excessively mobile, due to relaxed supports Displacements of the genitals not only involve their special supports and the pelvic floor, but the whole peritoneum and the abdominal walls

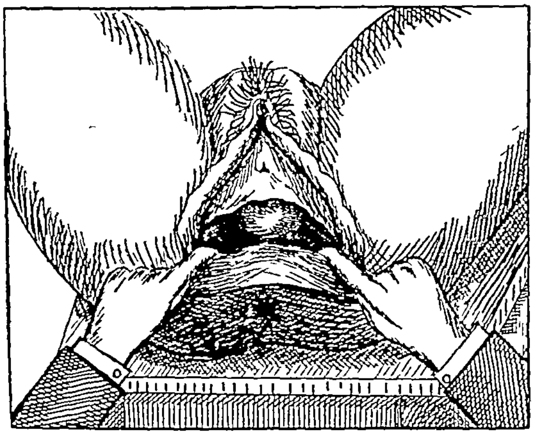

Fig 10 —(Robinson Scholer) A medium degree of relaxed vaginal outlet, to be remedied by colpoperineorrhaphy

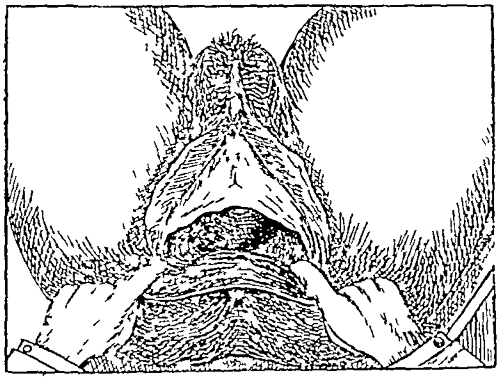

Fig 11 —Robinson Scholer) A high degree of relaxed vaginal outlet to be remedied by colpoperineorrhaphy

It need not be doubted that the mechanism of the pelvic viscera is complicated The levator ani, closely ensheathed in its superior and inferior fascia, forms a diaphragm through which the viscera find an outlet By introducing the finger three-fourths of an inch into the vagina, the ledge made by the fascia and muscle enclosing the vagina can be distinctly felt The muscle normally ensheathed in its scabbard, drives the vagina and rectum directly forward and upward toward the pubic arch The fascia inserts itself into and embraces the lower third of the vagina and is the important support The levator ani (fascial and muscular) supports lend to the lower third of the vagina a firm fixation, quite immovable, forcing its walls closely in contact for about an inch, producing a pronounced vaginal sphincter apparatus In marked contrast to the lower third of the vagina is the upper portion, which is lax, mobile and yielding, being surrounded by loose connective tissue only The urethral portion of the vagina and the neck of the bladder are firmly fixed by the vesicopubic ligaments which dwindle off into the white line This can be seen during respiration with highly relaxed and displaced genitals, the urethro-vaginal portion remains still, while the remainder of the organs move to and fro with each breath or diaphragmatic movement Superiorly the lower vagina is extremely firmly fixed by the three layers of firm, fibrous fascia —the posterior layer of the triangular ligament, the anterior layer of the triangular ligament, and the deep layer of the superficial fascia These three powerful and dense fibrous layers originate at the margins of the ischiopubic rami and stretch across the arch of the pubis, surrounding the vagina and being intimately blended in the vaginal walls To be convinced of the fact that these fibrous laminæ are the all-important supporting structures that not only retain the lower end of the vagina in position but prevent it from being torn away at labor, one needs only to dissect away all supports from the lower vagina except them, and then by tugging and dragging on the inlet of the vagina, note their almost unyielding qualities Parts of these fibrous layers (triangular ligament) are frequently lacerated in labor, and must be included in the flap-splitting and deep sutures to restore the lower vaginal tube

Laterally, the vagina is firmly fixed against the descending rami of the pubes, not only by the so-called triangular ligament, but by the levator ani fascia superior and inferior enclosing the levator ani muscle By introducing the finger for about an inch into the vagina and palpating the posterior and lateral parts, one can feel a blunt band running from the pubic ramus on each side downward and uniting behind the vagina in a still thicker and more blunt band This is the free edge of the levator ani and its double fascia, where they come in contact and embrace the vagina The vaginal canal, below the free edge of the levator ani and its fasciæ, is directed forward by the perineal body and triangular ligament while the same body directs the rectal canal backward

The lower third end of the vagina is quite thick, very vascular possesses turgidity and is surrounded by some circular fibers In short, the lower third of the vagina possesses a distinct, vigorous sphincter apparatus which plays an important rôle in the support of the sexual organs and in perineorrhaphy

In making a division of the supports of the pelvic viscera into those of the peritoneum and those of the sphincter apparatus, we may first make a few remarks on the deficiency of the peritoneal supports The utero-rectal (sacral) ligaments (extending from the rectum to the neck of the uterus) are the most important of the peritoneal supports If they relax, the cervix will pass downward and forward, while the body and fundus of the uterus will pass backward In other words, elongation of the sacrorectal ligaments is the initial stage of retroversion and descensus Retroversion changes the intra-abdominal pressure from the posterior surface of the uterus to the anterior and superior After retroversion the intra-abdominal pressure is exercised on the top and anterior surface of the uterus, driving the pointed neck, like a conical wedge downward at every breath The cervix acts in retroversion as a wedge or cone, and gradually forces the sphincter apparatus to yield The filling bladder forces the fundus backward and the full rectum pushes the cervix forward, all perfecting the retroversion, the beginning stage of prolapse, by elongating the utero-rectal ligaments

In colpoperineorraphy we must not only repair the deficient sphincter apparatus, but the cone shaped descending cervix must be amputated and its blunt end turned downward, so that it should point and rest against the sacro-coccygeal region (bone and ligaments) instead of attempting to dilate the levator ani muscle at every breath by the change of intra abdominal pressure When the cervix once gets firmly into the vulva, i e, into the vaginal sphincter apparatus, the descent is rapid and inevi [illegible] h [illegible] er two thirds of the vaginal walls being loose, easily descend with the uterus In descensus uteri, the vagina is inverted, showing in all probability that intra abdominal pressure had displaced the uterus first in the process of descent An intact sphincter apparatus will long retard a descending uterus The anterior vaginal wall appears first in prolapse, however the vesicopubic ligaments may still retain the bladder in position Posteriorly, the peritoneum descends with the cervix and upper portion of the vagina In other words, the upper part of the rectum and vagina are separated, while the lower rectum and vagina are closely connected by a musculo-fascial septum, with the thin edge of the wedge upward

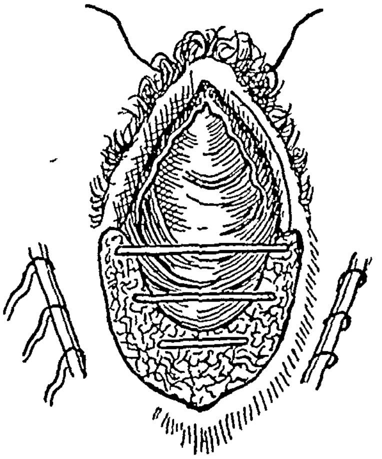

Fig 12—(After Hegar and Kaltenbach) Baker Brown's method about 1850

Rare forms of prolapse may occur where the cervix is elongated or where the peritoneum is loosened and stretched Space forbids reference to many other conditions and kinds of peritoneal supports

GENERAL VIEWS IN THE DEFICIENCY OF THE SPHINCTER APPARATUS

The vagina should engage more of our attention, because it is on this apparatus that the operation of colpoperineorrhapy is applied The primary factor which produces deficiency in the supports of the sphincter apparatus is labor Other factors play but a secondary rôle

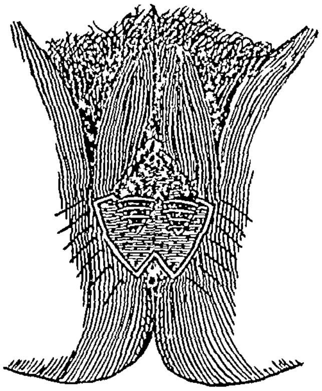

Fig 13—Dr Goodell's method of colpoperineorrhaphy

The pelvic fascia is not infrequently lacerated near the ischiopubic rami, where the fascial sheath is ruptured the contained muscular fibers also suffer laceration The results are cicatrices and loss of substance, which may be felt by palpation The anterior vaginal wall generally escapes laceration, but the posterior vaginal wall is often damaged, showing various sized and formed lesions Relax action is prominent and closure incomplete Instead of the curved lower canal with the perfect sphincter apparatus, there is a patulous, relaxed, open mouth, resembling a tobacco pouch which has lost its puckering string Sometimes the vaginal mouth is closed by an anterior and posterior vaginal fold, for a considerable distance up the vagina The causes of displacements of the sexual organs are so numerous—as elongation of the utero rectal ligaments, elongation of the cervix, laceration of the levator ani fasciæ, muscles and triangular ligament, intra-abdominal pressure, enteroptosis—that all possible factors must be considered in repair Repair must consist in correcting vicious forces, as the pointed cervix should be amputated and turned backward, the posterior vaginal curve should be restored with a perineal body to turn the rectal end back and the lacerated levator ani fascia should be reunited

An analysis should be made of the factors producing displacements and lacerations in the genital organs Deficiencies of peritoneal support should be considered distinctly from deficiencies of the sphincter apparatus, however, the both may be often combined Yet, after all, our chief attention will be directed to deficiencies of the sphincter apparatus, for on it depends prolapse and lacerations, chiefly arising in it Deficient primary peritoneal supports give rise to vaginal inversion as rectocele, vesicocele, bladder and rectal disturbances, and the vaginal mouth loses its puckering string condition In coloperineorraphy, the whole of the tissue of the pelvic floor should be utilized for support by forcing it into the median line This will rest over the tonicity of the pelvic floor and form a firm cicatrix which will prevent sacro pubic hernia and also reproduce the normal curves of the canals To accomplish this, extensive denudations or flaps are requisite

Successful colpoperineorraphy must make the pelvic floor as tense as possible and the newly formed cicatrix will aid materially in its success The thickened tissue (columns) on the anterior and posterior vaginal walls are remnants of Miller's ducts, which should be and are preserved in both Dr Emmet's and Mr Tait's flap operations They furnish evident support from their fibrous masses It may be observed that nearly all successful methods of perineorraphy make the denudations in the vaginal sulci on each side, and avoid sacrificing the thickened tissue on the anterior and posterior vaginal walls Reference to the labors of Bischoff, Martin, Hegar, Kaltenback, Schatz, Emmet and others will show this to be correct After performing colporraphy posterior, Martin makes what may be called an extension of the perineum forward This is an excellent method of restoring the anterior curve of the lower end of the vagina Any surgical procedure, to be successful, must conform to the anatomic structures The denudation of the lateral vaginal sulci or the flap operations conform to anatomic conditions, and so far have proved successful The reason denudation in perineorraphy is so successful is because healing in the vagina occurs with considerable certainty

THE METHODS OF PERFORMING PERINEORRHAPHY

The methods of perineorrhaphy may be classified into three divisions, viz Those which started at the vulva (denudation), those which attack the lower vaginal portions (denudation), those which depend on the flap procedure (which embraces colpoperineorrhaphy)

Numerous methods of perineorrhaphy have been tried since the days of Ambrose Paré, Dieffenbach and Baker Brown, when they simply united the superficial tissue which was situated on each side the visible laceration This was a superficial vulvar procedure and was of small value except to prepare the way for more useful methods

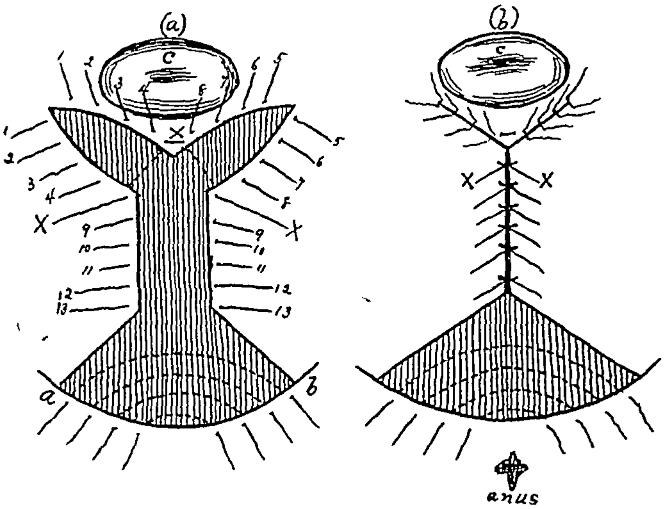

Fig 14, a and b —Dr Reamy's method of colpoperineorrhaphy

HISTORY

If the ancients performed successful perineorrhaphy, I am unable to obtain the records Colpoperineorrhaphy as a modern operation can scarcely boast of being more than a century old Surgeons sought to prevent prolapse by excising of the vaginal wall so that the resulting inflammation would produce a contracting cicatrix Others applied caustics for the same reasons According to Schroeder, Girardin, Laugier employed the blue stone Phillips used "smoking saltpetre," so did Laugier, Velpeau, Kennedy, Dieffenbach, Colles and Simon Chippendale sought to stir up inflammation and cicatricial contraction in the vagina by the very questionable method of infecting it with gonorrheal virus Operators have attacked the vulva or vagina The vulva was first attacked by such surgeons as Baker-Brown and Paré Fricke was the pioneer who performed episiorrhaphy which consisted of denudation of both labia and union by sutures The failures of Fricke's episiorrhaphy induced later surgeons to operate higher up in the vagina, which finally resulted in the Emmet and Tait methods Mende suggested denudation in the region of the hymen Malgaigne thought it should be done deeper in the introitus Jobert cauterized the vagina when it protruded, and after the exfoliation of the eschar, united the raw surfaces with sutures Desgranges employed chlorid of zinc to produce cicatricial contraction Marshall Hall was among the first to employ elytrorrhaphy He cut out oval or long segments of the vaginal mucosa and united the denuded surfaces with sutures Dieffenbach formed flaps Velpeau was one of the first surgeons to do successful perineorrhaphy Langenbeck and Karl Braun were also pioneers in the operation Early operators failed on account of lack of anatomic knowledge and prevailing sepsis It is not many decades since surgeons learned the necessary anatomy to employ in colpoperineorrhaphy It was learned that the perineum must not only be elongated, but a solid, thick, unyielding pelvic floor must be constructed that the sexual organs can not escape Perhaps Simon, the predecessor of Czerny at Heidelberg, was the real founder of colpoperineorrhaphy when, in 1867, he was not only performed but added to it that of posterior colporrhaphy Simon freshened the vaginal wall with a scalpel, and a fenestrated speculum was placed in the vagina while he freshened the upper part of the vaginal wall by having an assistant introduce the finger in the rectum and force the vaginal mucosa out at the vulva Veit, Hegar and Speigelberg aided to develop the operation As time passed, instruments for support were gradually displaced by more perfect operations, owing to more perfect anatomic and pathologic knowledge Most of the advances are due chiefly to the investigations of Freund, Hugier, Martin, Schroeder, Wilms (1879) and Staude (1880), Breisky, Huepfel and others mentioned in this monograph The practical execution of colpoperineorrhaphy by the celebrated Heidelberg surgeon, Simon, is the real foundation of subsequent labors The success attending Simon's addition of colporrhaphy demonstrated that some form of vaginal operation is required in prolapse or deficiency of the peritoneal or sphincter apparatus of the pelvic floor Celsus, it is reported, reorganized perineal lacerations and suggested rest in bed and tying the legs together, but gave no surgical views of repair Ambrose Paré, a fertile genius, demonstrated the use of sutures before 1880 He had a pupil named Guillenneau, who restored the parts, applied the sutures and secured curves Sancerotte and Noel secured success about 100 years ago In 1829, Dieffenbach, surgeon to the Charity Hospital in Berlin, devised useful methods of repair The deductions which made Dieffenbach celebrated in perineorrhaphy were his methods of lateral incisions (to relieve tension) and confining the bowels by the aid of opium Chelius opposed this view, insisting that the bowels should be loose In 1852 Von Langenbeck gave to the world his views through a memoir written by Verhaeghe of Ostend This definitely advocates the use of the flap and splitting of the rectovaginal septum Marcy gives credit to Dr Jenks for originating the flap Zweifel gives Mr Lawson Tait credit for the flap splitting method, to which he is no doubt entitled Hart and Barbour credit A R Simpson with it Baker Brown published in 1854 his first edition of the "Diseases of Woman," in which he advocated Dieffenbach's lateral [illegible]ons, the use of deep quill [illegible] confining [illegible]s with opium, and [illegible]on of th[illegible]

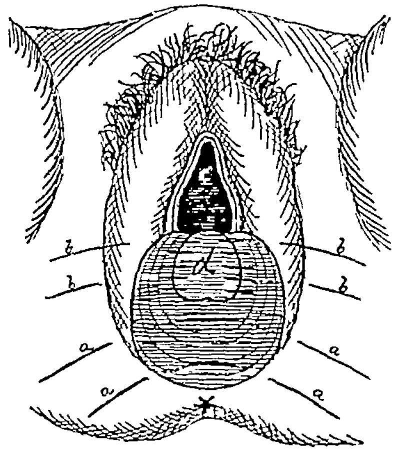

Fig 15 —Colpoperineorrhaphy according to Bischoff The tongue-shaped portion of the posterior wall of the vagina d is not dissected away The denudation in this operation is severe and bleeding is active, and should the operation fail much damage is done a a, and b b, show the method of introducing the sutures and the shape of the denuded area.

The perineal sutures were removed the third day, the remainder later, as late as twelve days All sutures were silk It appears that Dieffenbach and Baker-Brown realized that the denudation should be carried up into the posterior vaginal wall, the fact which Simon actually demonstrated It is reported that Mettauer of Virginia in 1830 used lead sutures, other metallic sutures were also employed In New York, in the Woman's Hospital, Drs Sims, Emmet and Thomas further developed colpoperineorrhaphy

At present the operation should be termed colpoperineorrhaphy New aids have also been developed in regard to the operation, as A Martin taught for years that one should begin the operation for colpoperineorrhaphy by setting up an involution of the uterus by amputating the cervix I have amputated the pointed conical cervix to get rid of the dangerous dilating wedge to the sphincter apparatus of the pelvic floor, to prepare for successful colpoperineorrhaphy A new era appeared in this operation when the flap began to be formed So far as records are accessible, the late Berlin surgeon, von Langenbeck, in 1852, first described the flap operation in perineorrhaphy He describes the splitting of the rectovaginal septum making a vaginal flap forward and a rectal flap backward Langenbeck's description of perineorrhaphy, as translated by Dr Marcy, is the most important contribution to the subject before the time of Simon of Heidelberg In fact, it is almost equivalent to Simon's, and in one sense superior—in the use of the flap Perineorrhaphy was also cultivated by Zary, Mursina, Mensel, Osiander, and Horner Perineorrhaphy was first performed with silk sutures, the hot iron, and chemicals About three-quarters of a century ago metallic (wire) sutures appeared In 1879, Werth published views on the use of catgut (animal ligatures) for buried sutures Schroeder chiefly introduced the buried spiral catgut sutures in perineorrhaphy Silkworm gut is one of the best materials for sutures in general use at present About 1872, Mr Lawson Tait began the use of a certain flap method, consisting of resplitting the old cicatrix by the use of scissors, reuniting the produced wound surfaces by means of sutures which do not penetrate skin or mucous membrane The utility of this consists in its application to either, or both, perineorrhaphy or colpoperineorrhaphy The flap operation was dimly begun by Dieffenbach, in 1829, by his lateral incisions to relieve tension The flap operation was definitely introduced in perineorrhaphy by von Langenbeck, about 1850 ("Memoire," 1852, by Verhaeghe) In 1861, Colles of Dublin, in a case of vesicovaginal fistula, resplit, instead of pared, the edges, and united the resultant flap In 1872, John Duncan resplit the edges of an artificial anus and reunited them with interrupted catgut sutures He forced the flap of mucosa upward and drew the flap composed of musculous and serosa outward, thus increasing vastly the denuded surface for coaptation Hart and Barbor report that Dr A R Simpson applied this flap method to perineorrhaphy Not far from 1872, Mr Lawson Tait applied the flap operation of Langenbeck, Colles and Duncan to the subject of perineorrhaphy He added to all previous labors the use of sharp-pointed elbow scissors, and the introducing of the sutures without penetrating the skin or mucosa of vagina or rectum Silkworm gut sutures are employed and may remain in situ for ten days to six weeks According to Sanger, Stein, a Dane, and Voss, a Norwegian, used similar methods Later, Hadra, 1887, contributed valuable views on the restoration of the pelvic floor as well as Marcy, Jenks, Byford, and Reamy

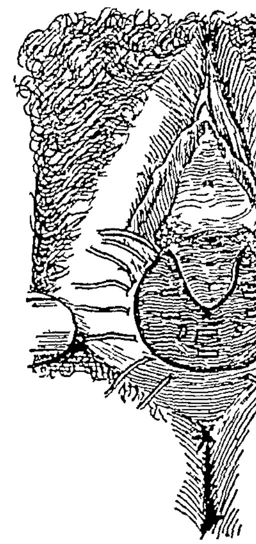

Fig 16—Dr Skene's method The area D, S is denuded, with sutures in situ ready for tying The method resembles that of Hegar and Staude

The various so-called operations for (colpo) perineorrhaphy are numerous The first operation devised involved the vulva, the second both vulva and vagina

1 Ambrose Paré (1580) used simply sutures His pupil Guillenneau practiced and improved the method (1649) LaMotte, Smellie, Noel Murenna and Sancerotte practiced it

2 (1830) Dieffenbach, union by sutures, and tension relieved by lateral incisions Roux (1834) introduced it into France, as well as Mark See (1885), and Palaillon (1885)

3 X Baker-Brown (1885), union by sutures of the denuded surfaces Wilms and Staude cultivated it in Germany

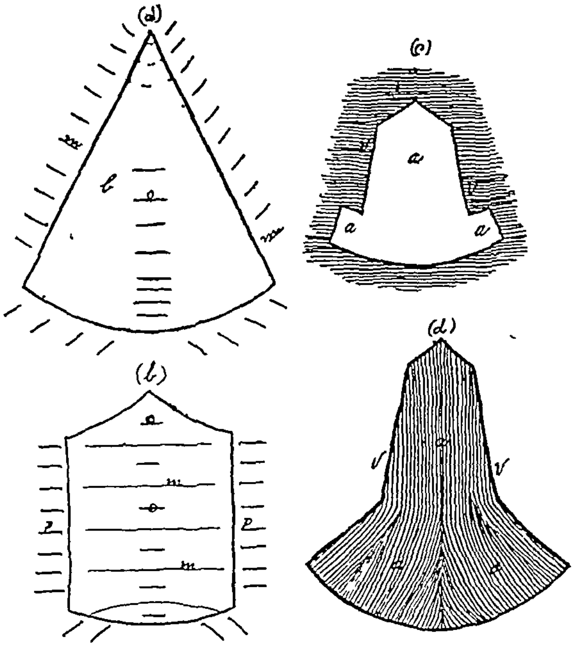

Fig 17—Shapes of the denuded areas in colpoperineorrhaphy a Hegar b Simon c, Lossen d, Fitch In a and b the dotted line represent the sutures buried by tissue the black lines the exposed sutures

4 The next important contribution and method devised in perineorrhaphy was von Langenbeck's flap method (1850) It was described and performed with a master hand Von Langenbeck also suggests that

the lateral incisions of Dieffenbach may be added, as it obviates dragging from movements He advocated removal immediately after the injury, if possible Von Langenbeck makes several distinct steps in the operation vivisection of the free border of the recto-vaginal septum, the undoubling of the septum and the formation of the flap destined to form in the new perineum, the anterior side of the triangular space formed by two canals, vagina and rectum, with the perineum as the base, the vivisection of the two lips of the laceration, the insertion of the sutures In this operation of perineorrhaphy von Langenbeck started the flap method The flap operation protects the wound from secretions (vaginal or rectal)

5 In 1867 Simon of Heidelberg began the real modern steps in successful perineorrhaphy, which was a combination of perineorrhaphy and posterior colporrhaphy Simon simply improved on Baker-Brown's method by not only freshening the perineum, but also carrying the denudation high up into the vagina Simon denuded the vagina by the aid of a fenestrated speculum The upper angle of the vaginal wall was denuded by introducing the finger into the rectum Spiegelberg and Veit aided in developing the subject Englebait wrote in 1871, Banga in 1875 wrote a thesis on "Kolpo-perineorplastik" according to Bischoff In 1879 Hegar and Kaltenbach made excellent contributions In 1877 Le Fort, and Neugebaum in 1881, added their labors In 1877 Dr Edward W Jenks of Detroit began the publication of a series of articles on perineorrhaphy which was really a flap method of operating—a distant relative of von Langenbeck's procedure Dr Jenks first cut away the flap, but afterward preserved it The method is almost precisely similar to the flap method attributed to Dr A B Simpson by Hait and Barbour In 1879 Werth began to use buried catgut to suture the wound Dr Bröse, in 1883, used buried animal ligatures H O Marcy published a series of articles (1883) on perineorrhaphy, advocating the flap method and buried animal ligatures, which he first used in hernia in 1881 A Martin of Berlin contributed excellent labors about 1882 About 1880, Professor Schroeder of Berlin contributed excellent results by the use of the "étage" stitch It was a continuous running suture of catgut buried in the tissues of the denuded surfaces As a pupil of Schroeder and Martin, I observed excellent results from this method Bischoff in part revives the flap operation of Langenbeck However, his operation was quite influential in its day Drs Byford, father and son, made valuable contributions to the subject History notes that Simpson carried Duncan's flap-splitting to the perineum Simpson performed a kind of four-flap perineorrhaphy for many years Perhaps Mr Tait imbibed some of his views

(To be continued)

A LIGATION OF THE EXTERNAL ILIAC ARTERY

BY G G DARLING, M D

ANN ARBOR MICH

The town of S may be considered slow and dull, but it is nevertheless patriotic The Fourth of July was celebrated there, this year, in a truly old-fashioned way, though the only ordnance available was a combination of two anvils and a large wagon-nut The hole in one anvil was filled with powder, and the nut, two inches in diameter and half an inch thick, was placed over the hole, and likewise filled with powder for good measure The second anvil was placed upon the nut to confine the charge The volunteer artillery company did not consider that the addition of the nut to the infernal machine would increase the danger and retreated but a short distance when the fuse was lighted Don L, a lad of seventeen, was standing on the opposite side of the street, some thirty-five feet from the anvil at the time of the explosion Simultaneously with the report he experienced a sensation of having been struck a severe blow immediately above the symphisis pubis There was no pain commensurate with the severity of his injury A few moments later, blood trickling down his leg apprised him of the fact that he had been wounded He walked home, a short distance, and Dr Sheeder was called Dr Sheeder states that in examining the patient he found a wound, nearly round and about an inch in diameter, immediately above the pubes and a little to the left of the median line The deeper tissues fell back into place so that examination with the probe failed to locate the foreign body When the clothing was examined it was found that two thicknesses of cloth had been cut away from the trousers, leaving a hole about one inch by half an inch in dimensions a piece the same size had also been cut from the shirt These pieces of cloth had been driven into the wound by the projectile

Dr Sheeder washed the wound with a bichlorid solution, made a counter-opening to the left of the point of entrance, and put a drainage-tube in these openings The patient suffered but little pain or discomfort He was kept in bed, on a low diet, and the wound was irrigated daily with bichlorid solution On the fifth day the fragment of shirt appeared in the wound and was easily removed At a subsequent dressing fine bits of gravel came away, indicating that the iron struck the ground and rebounded before inflicting the injury By this time there was considerable induration of the tissues in the inguinal region, so that the thigh was flexed and partially fixed The urine was passed with difficulty, but more readily when the patient was sitting upon the edge of the bed On the seventh day, while sitting on the edge of the bed to void urine, there was a sharp arterial hemorrhage from the wound This ceased when the patient resumed his usual position—on his back with the thigh flexed The recurrence of the hemorrhage several times under the same conditions alarmed the patient's friends, and counsel was called I reached S at 10 P M, the seventh day after the injury, saw Dr Sheeder and from him obtained the history as above given I found the patient quite weak from the loss of blood He was lying on his back, the left thigh flexed upon the body, with a pillow passed under the knee for support The left leg was slightly cooler to the touch than the right There was no femoral pulsation on the injured side Before proceeding further with the examination, I requested him to sit upon the edge of the bed as he had done previously when the hemorrhage had occurred He did so, and a sharp hemorrhage followed, which stopped promptly when the horizontal position was taken

The necessary instru [illegible] th [illegible] of tion were prepared, and [illegible]
After enlarging the sk [illegible]

my finger into the opening, and was able to feel a hard foreign substance which lay behind Poupart's ligament and beneath the artery. Its relation to the vein I could not accurately determine. When the tissues were pushed aside, the external iliac artery was easily felt and so far exposed to the touch that I could easily grasp it between my finger in the wound and my thumb outside, if hemorrhage should follow the removal of the foreign body. I then seized it with a pair of forceps and withdrew what proved to be nearly one half of the nut which had been used in firing the anvil. A gush of blood followed its removal, but by thrusting my finger into the wound and grasping the vessel, as I had planned, the bleeding was completely controlled. Under my direction, my assistant, Dr. Burr, cut down to the vessel and secured it with a catgut ligature. A second ligature was passed one-half inch above the first for greater security. Now came the question of ligating the vessel on the distal side of the wound. The clot in the distal portion was already one week old, and the wound was comparatively free from infection, why disturb this natural hemostatic to apply a ligature? Acting on the supposition that a clot which had effectually blocked the artery for a week, must, in the absence of suppuration, be sufficiently organized to continue to do its work, I decided to break a well-established rule of surgery and not ligate below the injured point. The wound was washed and lightly packed with gauze. The opening through which the iliac had been ligated was left to heal by granulation.

Two days later, Dr. Sheeder informed us that another piece of cloth had come away. A week after the operation I went to S. and found the patient doing well in every respect, though the third piece of cloth had not yet appeared. Three days later it presented in the wound, but a vigorous transmitted pulsation warned the doctor that its close connection with the vessel rendered its removal at that time unwise. It subsequently sloughed out without doing any damage, and the wound healed. He does not experience the least discomfort from the change in the course of the blood.

The following features of the case are worthy of note: That fatal hemorrhage did not immediately follow the receipt of the injury, that the iron and the cloth should have effectually blocked the wound in the vessel for a week, that there should have been so little infection or fever, that the formation of a clot made it possible to successfully treat a large wounded vessel by ligature above the wound alone, that in the passage of the iron across the inguinal canal in the upper portion, there should have been no damage to the spermatic cord, and that the external iliac vein should escape serious injury.

SOCIETY PROCEEDINGS

The Chicago Society of Internal Medicine

First Regular Meeting, June 23, 1898.

Dr. John A. Robison, the President, in the chair, and twenty-seven members present.

Dr. Gustav Fütterer read a paper[1] entitled

HOW SOON DO BACTERIA WHICH ENTER THE PORTAL VEIN BECOME DISSEMINATED THROUGHOUT THE SYSTEM, AND WHEN DOES THEIR ELIMINATION COMMENCE?

After showing, from the literature, that bacteria can pass through the walls of the intestinal canal, without grave lesions being present, and enter the general circulation, the writer set for himself the task to inquire experimentally whether, after they had entered the branches of the portal vein, the liver would offer any marked resistance to their reaching the general systemic circulation.

In the several experiments the bacillus prodigiosus and the bacillus pyocyaneus were the germs used, and every precaution was taken to prevent outside and accidental contamination and to render the results conclusive. The bacteria, with physiologic salt solution, were injected into the portal vein of dogs and blood taken from a jugular vein, at varying intervals of time, was used to inoculate culture media. As a result of five experiments the author concludes that micro-organisms may pass from the portal vein into the general circulation within one minute's time.

As to the second question: When does the elimination of bacteria commence? the author states that it begins immediately. He has tied the left ureter of a dog, injected bacillus prodigiosus into one of the jugular veins, taken specimens of urine from the pelvis of the corresponding kidney and found identical germs present within two minutes' time. In another experiment upon a dog, the common bile duct was laid bare and a canula introduced and bile obtained after the bacillus prodigiosus was injected into a jugular vein, with positive results after two minutes' time. This experiment, with extraordinary precautions in the technic, was repeated with like results. From these experiments the author concludes that the elimination of micro-organisms which find their way into the general circulation is inaugurated at once by the kidneys and the liver.

Dr. Billings said that every practitioner has seen clinical evidence of that which has been verified by the praiseworthy and valuable experimental work done by the author.

Dr. Gentles said that when it is considered how long the typhoid bacillus may remain localized in the gall bladder, he could not help feeling astonished at the short time which elapsed between the injection of bacteria into the portal vein and their appearance in the jugular vein, as detailed by the author.

Dr. George F. Butler read a paper[2] entitled

CHRONIC PARENCHYMATOUS NEPHRITIS AND AORTIC REGURGITATION, WITH ENORMOUS DILATATION OF THE HEART.

The case presented was that of a man 65 years of age, who several years ago had acute articular rheumatism and gonorrhea. He dates his present illness to three months ago, complaining of shortness of breath on exertion, cough, palpitation, nausea and vomiting, constipation and great weakness. There are present arterio-sclerosis, visible pulsation of arteries of arms, pulse rapid and collapsing, a blowing systolic murmur at apex which is transmitted to left axilla, an aortic diastolic murmur, a double murmur in the femoral arteries, enlargement of the heart especially on the left side, hepatic enlargement, edema of legs, and albuminous urine with hyaline and granular casts. From these symptoms and findings is based the diagnosis of general arterio-sclerosis, chronic parenchymatous nephritis, aortic regurgitation and hypertrophic dilatation of the left ventricle. The mitral systolic murmur is considered as being due to a mitral incompetency secondary to the ventricular dilatation. After discussing further the diagnosis of cardiac valvular disease and exhibiting sphygmographic tracings taken from this case, the author passed on to the subject of treatment. Digitalis was characterized as the typic cardiac stimulant, indicated in all cases of hyposystole, irrespective of the nature of the valvular lesion, but having its action guarded by a vaso-dilator in cases such as the one detailed. He advises the use of digitalis in efficient doses, with opium in small doses as a vaso-dilator. In the case given, 15 minims of the tincture of digitalis, with 5 minims of the deodorized tincture of opium, was given, every four hours at first, but with gradually increasing intervals, with excellent effect. In addition strychnia, cholagogue cathartics and a careful diet were employed. In conclusion the author made a plea for individualized treatment based upon a broad pathologic conception of the case and a familiarity with the physiologic action of the remedies employed.

Dr. Patton had seen the case with Dr. Butler. At that time doubt was expressed by some of the hospital internes as to the presence of aortic regurgitation, because of the effect upon the pulse tracing by the administration of digitalis. As the paper stated, that, and the great enlargement of the heart, which was much larger than is found in any other condition, was regarded as a strong point in sustaining the diagnosis, aside from the presence of a murmur. The tracing is of interest in this connection because some authors still teach that in aortic regurgitation digitalis is a dangerous drug, to be given, if given at all, with caution This, in the abstract, he had always regarded as fallacious teaching, because we obtain, relatively, the same effect from digitalis in the lesion in question as in any other, only it is necessary to give much larger doses in order to get the same result For instance, in using digitalin, one of the most active of the alkaloids of digitalis, he frequently gave a dose up to ⅓ grain of Merck's product, although the books say the dose is about 1/50 grain and that above 1/30 grain is a dangerous dose In this particular class of cases, with the left ventricle secondarily involved, it is necessary to give large doses Mention was made of the case of a lady of 80 years, with atheromatous stenosis, who is taking, with great benefit, ⅙ grain doses of digitalin, and the sphygmographic tracings exhibit the same beneficial change as in Dr Butler's case

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[1] Published in full in "Medicine" for July, 1898.

[2] Published in full in the Medical Standard for August, 1898.

Regarding the administration of digitalis the speaker did not suppose that anyone would attempt to obtain its effects in any valvular lesion without appreciating the dynamic force of the circulation, the relative amount of hypertrophy and dilatation and the peripheral resistance to the circulation The reason why the heart fails in dynamic power is, that there is a perivascular sclerosis which interferes with nutrition and the heart muscle becomes degenerated and weakened It dilates and symptoms of a failing heart arise, because the intraventricular pressure exceeds the contractile force of the heart muscle, this can be counteracted by giving something that produces more dynamic force and if digitalis does not do this, he did not know what does The dose must be such that produces sufficient contraction to overcome the resistance If small doses do this, well and good, but in his experience he had found that it will take relatively twice as much digitalis to produce the same amount of contraction of the ventricle in an aortic as in a mitral lesion Failures are often due to disturbance of the normal relation between the peripheral resistance and the contractile force of the heart The peripheral resistance becomes relatively too great and must be reduced by a vasodilator Opium is very serviceable for this purpose, from 3 to 5 drops of the deodorized tincture usually being sufficient Such doses are harmless, even in cases associated with nephritis With the exception of nitrite of sodium, the action of the other vasodilators is too transient Nitrite of sodium is very useful in these cases and the balance of the circulation can often be restored by its use

Dr Goodkind said that he saw, recently, at the Michael Reese hospital, a case similar to that of Dr Butler's With marked symptoms of cardiac insufficiency, due to combined aortic and mitral regurgitation, there were general anasarca, double hydrothorax, renal stasis, etc The patient was given, by mistake, 2 drams of a freshly prepared tincture of digitalis The error was not discovered for an hour, when the stomach was emptied, bringing away some of the digitalis The following was the first good night's rest the man had obtained in months Since then the anasarca has disappeared, the pulse has become more rhythmical, and there has been a very marked improvement in all his symptoms, subjective and objective

Dr Babcock said that while he believes in the use of digitalis in this class of lesions, he differs with the author of the paper and previous speakers with reference to the dosage He can readily understand that in many of these cases large doses of digitalis not only may be well borne, but may be absolutely indispensable to obtain the effects desired This leads him to say with reference to digitalis generally, the dose should be determined by the effects, but on the whole he believes that it should be the smallest which will produce the desired effect That many times we can accomplish excellent results with small doses if the heart is relieved of much of the burden it has to bear It is a mistake to pour in digitalis without lightening the heart's work While he knew that the gentlemen who preceded him realized this fully as well as he did, the general practitioner, who does not see many of these cases might be led into error by reading a statement that cases of aortic regurgitation in general require larger doses of digitalis than others One great danger in these cases is the condition of the arteries secondary to or associated with the cardiac lesion The arteries are sclerotic, and if the left ventricle becomes again powerful in its contractions, and if the vigor of the myocardium has not become greatly impaired, large doses of digitalis might readily cause the heart to throw a volume of blood into the arteries with such force as to cause a rupture of some of the degenerated vessels He believes this is not an imaginary danger Furthermore, if the dilatation of the left ventricle is due to the cause assigned by Dr Butler, viz, the increase in the systole required to overcome the obstacle rather than to the reflex of blood into the ventricle during diastole, then the digitalis in large doses might bring about an increase of dilatation Dr Babcock said he is not convinced that the cause of the dilatation is that assigned by Dr Butler, but if it is, it seems to him that the reason he assigns is an argument against large doses of digitalis In the treatment of these cases he lays particular stress upon sufficient rest in bed and the removal of obstacles to the emptying of the left ventricle by lessening peripheral resistance He also appreciates the wonderful effect of opium in all cardiac cases, but that we must here also speak a word of caution against its general use in connection with digitalis It is in chronic cases that digitalis has to be prescribed for a long time, for months and often for years, and if opium is combined with it, the opium habit is likely to be formed The argument might be advanced that if it prolongs life it is of no consequence, but it seemed to him that if we could accomplish with small doses of iodid of potassium practically the same results, so far as the vascular system is concerned, we should use it because it is better for the patient and it certainly is devoid of many evil effects on digestion which are caused by opium, and the nutrition of the patient is a factor of much moment and one which we must never forget, for it is upon the nutrition of the myocardium that the heart depends

Dr Billings alluded to the differences of opinion as to the diagnosis and treatment, especially as to the use of digitalis, which, almost of necessity, prevailed among clinicians He believes, however, that in that form of insufficiency which is due to real, endocardial, valvular disease, there is great risk to life in the use of an agent which causes violent contractions of the heart In cases due to atheroma and consequent shrinking of the valves there is no possibility, or probability, of washing off any foreign material As to the use of digitalis in these old people with arterial changes, he believes we all differ in our views, as may be seen by reading the journals and text books But he does not think that there is much danger of the rupturing of an artery, because if the heart is so weakened by disease that there is a loss of tension, then there is a lack of arterial pressure, the blood being dammed back on the venous side, as shown by the enlarged liver and spleen and congested kidneys Digitalis fills the arteries and carries the blood forward He agrees with Dr Babcock in that more is to be gained by rest and emptying the right side of the heart than from digitalis Digitalis forces the blood stream and improves the venous circulation, but this may be done in an easier and less dangerous way He quite coincided with Dr Babcock as to the use of digitalis with opium, but thinks opium is contra indicated in cases where the kidneys are involved, with a diminished quantity of urine In cases of uremia absolute physical rest increases the elimination of urea In conclusion, he remarked that the longer he practiced medicine the less digitalis he used, particularly in some valvular lesions, and resorts to smaller doses

Dr Rosenthal considers the state of the pulse the only reliable guide in the use of digitalis The *pulsus celer et altus* will not allow digitalis, as arterial rupture might ensue German authors, generally, teach that there is a difference between the tincture and the infusion of digitalis preferring the latter, and this was also his preference He considers digitalis inapplicable

Dr Wells stated that his remarks would be limited to the question of diagnosis, which was particularly worthy of consideration in this connection because the case presented by Dr Butler was not, from a diagnostic standpoint, a typical one of aortic regurgitation The murmur, to be sure, is present, but this is one of the least important of the diagnostic features of aortic incompetency, in any case it is only confirmatory, not conclusive evidence It may be present or it may not, it may be heard at one time and not at another, but that only makes it the more necessary that repeated consultations be made before the final opinion is given as to the presence or absence of a murmur The matter of sphygmographic tracings had attracted much of his attention for many years, and he believed that in aortic regurgitation the sphygmogram was, in the immense majority of instances, highly suggestive and even distinctive of this lesion The typic tracing (several of which were presented) is one in which the ventricular wave rises to a great height, is very steep and has a sharp apex, a very rapid fall, often to one half or more of the ventricular wave, then there is a sharp upturn, the elastic recoil, which also has a rather sharp apex He had not seen, in his cases, so far as he could recollect, the dicrotic, or peripheral recoil wave absent, and it is always present in typic cases When fever is present the peripheral recoil may be so marked as to show profound dicrotism He could not understand how the Corrigan pulse could be absent in cases of marked aortic regurgitation, with enlargement of the left ventricle, even though the right ventricle be also enlarged The entire question of hypertrophy is an important c [illegible] it [illegible] be remembered that when the left vent[illegible] and forces the blood through the arteries with great velocity and power, the muscular and fibrous tissues in the arterial walls also become hypertrophied, the whole process, cardiac and vascular, going along, hand in hand He believes that the peripheral symptoms, the visible pulsation of arteries that normally do not so pulsate, the capillary pulse in the nails, forehead, gums, tonsils, etc , are of great import, yet he must add a word of caution to laying too much stress upon these without careful consideration of the case as a whole

The **President** cited the case of a lady of 60 years, with aortic insufficiency, who was confined to her bed for two years on account of hemiplegia At the end of that time the cardiac dilation was less, her heart was greatly improved, and the secondary symptoms of the aortic regurgitation had disappeared This case shows what rest alone is capable of doing in these subjects In cardiac valvular disease he had had great success with the old mixture of digitalis, nitrate of potash and cubebs

Dr **Butler**, closing the discussion, said that doctors would differ, although their objects were the same For this reason he would not take issue with those who differed with him in the points brought out in his case His experience justified him in the use of remedies as designated by him Numerous cases of aortic insufficiency had been treated by him in hospital, where the internes had begun with small doses of digitalis, the patients not improving nearly so well as when the doses were increased In one case 10 minims of the tincture of digitalis had been given three times a day for some time without benefit The dose was increased to 15 minims and the intervals lessened and in a short time the man was able to be up and around He quite agreed with Dr Babcock in the undesirability of giving more digitalis than necessary, if 10 minims were efficient it is enough, but if a dram is required give it In regard to the danger of rupture of atheromatous arteries from the use of digitalis, he had never seen a case, and did not think the matter especially worthy of attention He had seen numerous cases of delirium tremens, many of which were old men with sclerosed arteries, who were treated by the hospital steward with tincture of digitalis in large doses, often from 4 to 6 drams, entirely regardless of the condition of the circulation Marked results were always obtained and no one ever killed In short, he had never seen any bad effects from the use of digitalis As regards rest, he quite agreed with Dr Billings that it is a very essential factor and one which was too often slighted He had been interested in the tracings exhibited by Dr Wells, but supposed they were uninfluenced by medicine, whereas his first tracing was without medicine and the others after use of digitalis and opium Personally, he preferred opium as, judging from his own experience, it did not disturb the digestion so much as potassium iodid, and as to its influence upon the kidneys, he paid no attention to that, as he never gave more than 3 or 4 minims of the deodorized tincture of opium He had had patients on this treatment for months and they had not formed the opium habit In cardiac cases with much dropsy he uses diuretin, the theobromin of which causes the diuretic effect, while the salicylate dilates the blood-vessels The combination spoken of by Dr Robison he thought especially useful in cases with ascites and hepatic lesions

Dr **James B Herrick** read a paper

ON THE EXISTENCE OF EPIDEMIC CEREBRO SPINAL MENINGITIS IN CHICAGO, WITH REPORT OF A CASE WITH AUTOPSY [3]

Dr **Fütterer** had seen, a few months ago, in consultation, a case of epidemic cerebro spinal meningitis, in a boy of 12, with recovery

Dr **Hollister** had seen a case, fatal on the twentieth day, which had presented all the essential features of epidemic cerebro spinal meningitis, thoroughly like those seen in severe epidemics of former years

Dr **Butler** had seen, recently, two cases, one with recovery within a month, in which the diagnosis of epidemic cerebro spinal meningitis was positive, and a number of other, hospital, cases in which the diagnosis had been in doubt

Dr **Billings** expressed pleasure in having seen the slides and cultures of the diplococcus intracellularis meningitidis which the author had presented He had been seeing cases of epidemic cerebro spinal meningitis, in small numbers, for several years, and in speaking with colleagues, particularly Dr Church, he believed his experience is but that of others, and that these cases occur, not universally, but in foci, every year in Chicago In his opinion these cases should be isolated

The **President** stated that he had seen three cases of epidemic cerebro spinal meningitis in Chicago during the past few months The diagnosis seemed positive, one dying and two recovering They were all encountered in the same neighborhood

Dr **Herrick**, closing the discussion, said that he was sure there were always sporadic cases in Chicago, and this is the testimony of physicians in almost every large city After epidemics there are always stray cases which creep in here and there Councilman, in a recent article, mentions this and cites the experiences of some of the older New England physicians who went through epidemics and for years saw cases cropping out here and there Sporadic cases, he says, are usually present in many of our large cities Dr Herrick remembered that during the World's Fair there was a little nest of cases out at the Fair, and he attended one case at the Presbyterian Hospital Some twenty or thirty cases were sent to the County Hospital, all from the same neighborhood All the cases which the author referred to in his paper came from a wide area on the West Side—from Lawndale near Twenty ninth Street on the south to Armitage and Milwaukee Avenues on the north With regard to the contagiousness of the disease, he could say nothing from personal experience, but from reading Councilman's article he should judge that it was not ordinarily contagious, and he believes Dr Billings' proposition to isolate these cases is unnecessarily severe In the Boston epidemic of thirty one cases only a few came from the same house, the majority being from separate houses And yet there are those who believe in the contagion of the disease in the ordinary sense of the term It is a disputed point as to how the organism gains entrance into the meninges It probably does so through the nose, as is shown by the investigations of Schiff, who found, in examining nasal secretions, that there is present in the nose, in a large percentage of cases, an organism which is either identical with or, at present, indistinguishable from the micrococcus intracellularis meningitidis of Weichselbaum The experience in epidemics seems to be that the contagious element is a very mild one

Edward F Wells, Secretary

Chicago Medical Society

Regular Meeting Held in the Society Headquarters, Sept 14, 1898

The president, Dr **Arthur Dean Bevan**, in the chair

The subject for discussion was the

MEDICAL EXAMINERS' BILL,

which was opened with a paper by Dr **J W Pettit** of Ottawa He said there was a growing sentiment among the better class of physicians in the State that some more thorough and practical method of regulating the practice of medicine should be attempted This sentiment had found expression for several years in addresses, papers and committee reports presented to the Illinois State Medical Society, favoring legislation more in keeping with present needs and conditions It was not until 1896, however, that any attempt was made to formulate a bill and secure its enactment The Legislative Committee appointed by the State society that year, recognizing the utter futility of securing the enactment of any law which might be opposed by any considerable number of licensed physicians, and further recognizing the unreasonable and unreasoning antipathy of many physicians of the so called schools to each other, sought a union of the schools in this effort The Legislative Committees of the regular, homeopathic and eclectic schools met and agreed to act conjointly Having nothing to guide them as to the wishes of the profession, they conferred with leading men in all the schools and found them unanimously in favor of the creation of a State board of medical examiners, and separating the license from the degree With this for their guide, they had Judge Shope, formerly of the State Supreme Court, formulate a bill embodying these provisions, which for lack of time could not be submitted to the profession before presenting it to the last session of the legislature Being, as it was, a new departure and containing some radical provisions which were not understood, it met with so much opposition within the ranks of the profession that they did not press its passage This was about what was expected, but served the purpose for which the effort was intended, namely, to elicit a discussion of the subject, and in this way determine the wishes of the profession

The work of the joint committee last year was to carefully frame a bill which would meet the requirements of the present time, and be a step in advance of any attempt hitherto made, and yet not so radical as to excite such opposition within the profession as to lead to its certain defeat

While the profession had been found to be almost unanimous in favor of restrictive legislation as a general proposition, a failure to comprehend or recognize the legal principles which must be observed in framing a measure of this, kind had led to some confusion of details as to methods, and herein lies the difficulty of harmonizing the profession upon some specific measure Unless it can be clearly shown that such a law is in the interest of the public, it will not stand the test of a judicial decision, as the Constitution expressly prohibits class legislation Such regulations are under the police power of the State and must be for the protection of the public and not the profession Whatever advantages may accrue to the profession by such a law must be incidental to the public good Physicians would demean themselves and belittle the profession were they to attempt to secure the enactment of a law for their own protection This principle of protection to the public must constantly be kept in view, and any departure from it would nullify any law the profession might succeed in having enacted Medical license laws are only defensible on the theory that they are needed to protect the public health Any attempt to favor physicians as a class, or one class of physicians at the expense of others, has been declared illegal, hence the difficulty in determining who should be excluded from the privileges of practice

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[3] Published in full in this Journal, July 2, 1898, Vol xxxi p 20

Unfortunately, too often regularly licensed and well educated physicians subsequently become notoriously irregular as to their methods of practice, but are still under the protection of their legally obtained licenses Unless some more practical method is devised than the present cumbersome and inefficient one, the profession might only succeed by the creation of an examining board, in raising the educational standard without elevating the moral tone of the profession

The renewal clause of the proposed law had this in view by restoring to the licensing body once a year that discretionary power which seems to be the only practicable way to reach this class who make the enactment of such a law necessary This provision puts the quack on the offensive instead of, as now, on the defensive, thus placing the burden and expense of a trial on him, instead of, as now, upon the Board of Examiners This difference will operate against the quack as seriously as it now does against the board It will give the board more latitude in the exercise of its discretion as to what is "unprofessional conduct," and this discretion can not be controlled by judicial tribunals This will make it possible to withhold a certificate for those offenses which are regarded as unprofessional from an ethical standpoint, but are not usually so regarded by a court or jury

The serious objection raised against it is that physicians may inadvertently allow their licenses to lapse and thus unwittingly become violators of the law This can easily be remedied by amending the bill, making it incumbent on the Board of Examiners to notify any delinquent that his license has expired, and giving him reasonable time in which to comply with the law The trifling annual tax is certainly too small a matter about which to quibble

The object of this discussion is not only to bring about a better understanding of the Committee Bill which had been sent to the physicians of the State, and make desirable changes, but to stimulate the necessary interest and enthusiasm to secure its enactment All that seems to be necessary to secure the enactment of this or some other measure into a law is, 1, its endorsement by the medical profession, and 2, the weight of political influence on the part of the profession When the profession is united on what it wants the battle is won Without this union of effort for a specific measure, it will be a waste of time and effort to attempt to secure its enactment

Dr Daniel R Brower said that the proposed bill referred to by Dr Pettit would correct the deficiencies of the old one The State Board of Health should restrict its work to sanitary matters During his term of service with the Board of about one year's duration, not one tenth of the time was given to questions of public health, but most of the time was given to the consideration and regulation of medical colleges and the question of medical practice The proposed bill was an excellent one The only objection urged against it was with reference to the clause requiring a yearly license This feature was the only one by which quackery could be suppressed and good work done by the medical colleges of the State

Dr N S Davis Jr , said the regular profession was heartily in sympathy with the general principle of having a licensing board independent of college degree A bill such as the one proposed should not at any time be advocated as in any sense a piece of legislation for the medical profession only It was in no sense whatsoever class legislation, but was purely and simply legislation for the benefit of the public While there were certain sections of the bill that could, in his opinion, be modified advantageously, yet if there was any possibility of the bill not passing because of modifying it, personally he would much prefer to have it passed exactly as it had been presented

Dr Harold N Moyer said the bill as it now stood met with his unqualified approval in every particular He therefore moved that the Chicago Medical Society endorse the proposed Medical Examiners' Bill, and pledge itself individually and collectively to support it when it comes up for passage at the next meeting of the legislature, and that the President of the Society appoint a member from each legislative district to further the resolution This resolution was seconded and unanimously carried

The proposed bill was further discussed by Drs D W Graham, Sanger Brown, A W Baer, H H McAuley, J S Christison, Arthur Dean Bevan, and the discussion closed by Dr Pettit.

SELECTION

The Epilepsy of Napoleon —No life in its singularity better supports my theory that epilepsy is fundamental to genius, than that of Napoleon, as he was surely one of the most complete examples of genius He not only had motoria convulsions, followed by sleep and unconsciousness, excessive violence without cause, so common to genius, but the phenomena rarely noted in psychic epilepsy—momentary mental absences Nor was an hereditary cause lacking It is well known that epilepsy is often inherited through parents addicted to alcohol Napoleon himself confessed to Antommarchi that his father drank, and he died young of a cancerous affection He was talented, intriguing, and lacking, or almost entirely so, in moral sense It was known he was an old friend and follower of Paoli, whom he abandoned at the time of his exile, and thenceforth became a client of the French governors Napoleon's sisters were very immoral, especially Pauline, who was hysteric, it was she who allowed herself to be sculptured nude by Canova Lucien was selfish, avaricious and sensual The mother, however, was a woman of solid character, resolute, intelligent and imperious

Napoleon was short of stature, barely five feet tall, though he measured five feet, six and a quarter inches from finger tip to finger tip, which is considered by the alienist, a mark of degeneration The mesocephalic head, with depressed temples, was not lacking in anomalies, especially the heavy jaw, with the pendant lemuria that is familiar to us all, the salient cheekbones, arched zygomatic bone and scanty beard which one sees in his youthful portraits, before adulation had transformed the expression of his face The upper and lower parts of his body lacked proportion, the legs being too short in comparison to the trunk, the head sunken between the shoulders, and the back slightly curved He had hyperesthesia to such an extent that he had his room heated as late as July He perceived odors when no one else noticed them He suffered from frequent megrims, and had an exaggerated form of what I call meteorologic sensibility, causing him to feel the approaching changes in the weather, from which he suffered, becoming ferocious when it was damp As is frequent with epileptics, he had muscular contractions, especially when under strong emotion In anger the muscles of his calves twitched When he treated of new schemes he was addicted to what are called Jacksonian convulsions, twisting the right arm and raising the right shoulder, with contortions of the lips and grinding of the teeth From his youth he had regular epileptic convulsions At one time at school in Paris he was to have been punished for insubordination, by wearing coarse clothes and by eating on his knees, but he was seized with such a serious attack of convulsions that the punishment had to be spared In the journal of travel to Margonza in 1801 kept by an unknown lady of the court and in Constant's Memoirs, it is stated that on September 10, Napoleon had one of the nervous attacks to which he was becoming subject Josephine called for assistance and after many hours of anxiety it passed over The Emperor forbade its being spoken of Another time Constant saw him in an attack between epilepsy and incubus lying on his elbows in bed shaking and screaming, he was awakened with much difficulty, and pretended to have dreamed that a bear was tearing his chest Talleyrand saw him in a more marked attack, when, in 1805, he went with the

Emperor to Strasburg One afternoon he saw him go into Josephine's room, soon afterward he came rushing out, grabbed Talleyrand by the arm, almost dragging him into a near room, and confusedly asked him to close the door, when he dropped upon the floor as if dead "He trembled and foamed with convulsions, which lasted about a quarter of an hour Soon after, he began talking, then rearranged his clothes, and recommended silence to us, half an hour later he was on his way to Carlsruhe" Like many epileptics, he had a very slow pulse, 48, and later 60 to the minute

Great were his mental absences Wolsley declares a military plan was adopted at Borodino which insured success, and that the victory was lost by the actual mental paralysis of Napoleon At Dresden, as after the battle of Moscow, he lost the fruit of the battle by a sudden mental absence which prevented him from making a decision, at Moscow he did not decide to comply with the request of his generals and order out the reserve to pursue the Russians His mind certainly was not clear when, at Vasarvi, simply because he was affronted at not receiving a reply from Alexander, he decided, almost without preparation, upon a plan of invasion against a solid war like people, protected by the steppes, the cold, and above all by intense patriotism He was entirely lacking in moral sense, as is common with epileptics, which Taine justly says, made him a great leader Thus at Cherasco he said to the Savoyard general with whom he was treating for an armistice "I wanted to demand in the treaty that was being closed, a fine picture of Gérard Dow, which belongs to the king, and is one of the masterpieces, but I could not see how to put a picture in an armistice, and I feared it would seem a strange freak, especially having the fortress of Coni attached to it" It is the language of a brigand making a redemption In his talk with Metternich at Dresden, when the latter remarked that the late war had cost 200,000 lives, Napoleon answered "What are 200,000 men to me?" Napoleon's complete lack of moral feeling was reflected in the phrase, although purely official, of the bulletin issued from the horrible Russian carnage 'The health of the emperor was never better" No Asiatic despot, even in ancient times, could have dictated a sentence more jarring on the mournful scene of death from which it was issued Madam Remusat relates of Napoleon's having said in a conversation with Josephine "I am not like other men, moral and social laws were not made for me" Upon another occasion, in reprimanding the Bishop of Grand, who did not wish to give his oath as it conflicted with one he had already sworn, Napoleon said "*Eh bien monsieur*, your conscience is nothing but stupidity" The evening of the 13th vendemiaire, being present at the arrangements of the insurrection of the sections, he said to Junot "Ah! if the sections would only place me at their head, in two hours I would install them at the Tuileries, and would clear out all the miserable conventioners" Five hours later he headed the conventioners, and had opened fire upon the Parisians These qualities did not develop late, but were manifested at an early age, even in college he was reticent and deceitful His worthy uncle, Corso, prophesied a splendid future for Napoleon, because he was *master of falsehood*, the eulogium which Napoleon reversed upon Metternich

His baseness reached the point that at a public banquet he spilled some oil on the gown of a great lady, of whose honor he wished to rob her, that he might have a pretext to retire with her into the next room One should read his recently published correspondence to see how, aside from the monumental Cæsarean style of his proclamations, he used a coarse, slangy language It is known that many of the worst letters have been suppressed and will never be seen How unfortunate that he should have shown these qualities even in treating with sovereign and foreign ministers of state, insulting them in his proclamations, his letters and his audiences, revealing their love intrigues, whether actual or supposed The bulletins 17, 18 and 19 after the battle of Jena, openly accuse the Queen of Prussia with an intrigue with Alexander of Russia His unlimited selfishness was shown in Egypt and in Russia when, at a time when everything depended upon him he abandoned the army for the sake of saving himself He would never have raised his brothers and brothers in law and many of his generals, except to have them as instruments in his hand, as reflectors and magnifiers of his own light He thrust them cruelly against their people for his own interests When he crossed into Italy the first time, he began with the phrase "my soldiers" and "my army," and finished by talking of "my people," "my senate," and even of "my bishops," and "my cardinals," as though they were his puppets For arranging, directing and mastering the practical affairs of life, such incomparable and lively passions form a tremendous force

This force was Napoleon's selfishness, not the inactivity of the many, but active, aggressive selfishness, developed to the point of creating an infinite *Ego*, so that in the vast domain in which it acts it can not suffer another existence, unless it be an appendage or an instrument of its own As a child this charateristic existed in him in embryo He was rebellious at every reproof, without scruples, without conscience, intolerant to rivals, ready to fight any one who would not give way to him, while he accused others of attacking him He considered the world as a magnificent banquet open to all, where to be well filled it is necessary to have long arms and help one's self first, letting others have only what is left Man, according to him, is dominated with his same selfish passions of fear, cupidity, self love and emulation Napoleon never departed from these ideas, nor could he, they being a part of his character, he saw man as he choose to see him His selfishness, reflected in ambition, took such possession of him as to kill his conscience, and ambition finally caused his downfall It was not enough that his functionaries were active and zealous, after having killed every critical sense in the man, he must belong to him body and soul, and in the slightest observance he suspected a conspiracy or an attempt upon his majesty He demanded every agreement of service from his functionaries—even though criminal – from the falsification of the Austrian and Russian notes in 1809 and 1812 to the projection of an infernal machine against the Bourbons, in 1814 Gratitude was unknown to him, when a human instrument no longer served him he cast it away Peace for him was an armistice during which he prepared for a new campaign It was for this reason that *all* Europe, taught by experience, united after 1809 in turning against him Napoleon, instead of considering his own personality secondary to the State, considered the State secondary to his personality He had no regard for the future and sacrificed it to the present "If my successor is an imbecile, so much the worse for him" He made the press a slave to Censorship, and even prohibited works of statistics and economy, if they appeared to cast doubt upon his infallibility It was the same with the schools He wrote to his councillors of State "In establishing a corps of instruction my aim is to have a means of directing public opinion in politics and morals" As Renan said, school was for him the vestibule of the academy G Gorion was sent to prison for having called his coronation with the iron crown an absurdity, and Lattanzio was committed to the insane asylum for saying *Napoleon would make himself king of Italy* His brother Joseph said Bonaparte would have had no peace if he could have supposed that after his death everything would go on quietly and smoothly He forced France into an abyss, conscious that he was deceiving her, by misdeeds and an abuse of confidence *there grew by degrees the divorce between his own interests*, such as he understood them, and the public interest Napoleon ended by becoming the slave of his monstrous conceptions and his limitless ambitions Even though the expedition into Russia had not ended disastrously, some other misfortune would have overtaken him In order to carry out such an enormous campaign it would have been necessary to have a tremendous combination of forces The fate of Napoleon's subjects was reduced to a military career or obligatory administration In 1810 there were 160,000 men who refused to serve, and in 1811 and 1812 60,000 were arrested Meantime he had made 4,000,000 victims, France was reduced by two foreign invasions, made a suspect of Europe, surrounded by menaces of odium and envy This was the political work of Napoleon, the outcome of selfishness supported by genius With his false image of glory he promoted what may be called the military and bureaucratic degeneration of France, the worst calamity that can overtake a civilized nation In all this he showed an impulsiveness and above all a brutality common to epileptics As Bonfardini says, he mistook brusqueness for dignity, his own caprice for moral law, anger for justice and insolence for truth It is told that he kicked Volney when he said that France wanted the Bourbons, and gave Bertier a cuff when he saluted him inoportunely, as "Roi de France" While the treaties of peace were being made with the Count Cobentzel, Napoleon suddenly broke a valuable vase, saying, 'I will break your monarchy in pieces like that" At Boulogne, when the admiral refused to collect the fleet on account of a menacing storm, *Napoleon raised his lash upon him*, which he had already used several times on some of the grooms He writes to Prince Eugene, "You will await orders from H M were it only to change the ceiling of your room, and if Milan were on fire you should await orders, although *the whole city burn while you are waiting*" He once violently thrust his brother Louis out of the door In Dresden, in 1813, he brutally asked of Metternich, at a time when he was indispensable to him, how much England had paid him to represent her interests as he was doing Intolerant of delays, he would throw clothes into the fire if he did not easily succeed in putting them on He scrawled, he did not write He dictated with unusual rapidity, and if asked to repeat would fly into a passion, which his secretaries sometime provoked for a rest From childhood he was violent and impulsive He boasted to Antommarchi that as a child he feared no one, struck and scratched everybody, especially his brother Joseph, whom he would bite and kick until interfered with

A leader of high talent, between the alternatives of the throne and the gibbet, he made a game of peoples, religions, and government, with incomparable skill and brutality His gigantic intellect was abnormal for his size Marbot, a reliable authority, attests that he had marvelous nervous force, and had resistance for a work seemingly incredible He could spend ten or twelve hours on horseback, with barely four or six hours interrupted sleep, being wakened for his signatures, only to fall immediately to sleep again, and this upon the eve of battle which would keep him in the saddle all day At Paris, after a day of intense work, he could rise in the middle of the night, dictate to many secretaries, who changed with the precision of sentinels, and in this way go from a conference with his ministers to an audience with literati or artists "The quantity of facts," wrote Taine' "which his mind stored up and retained, the number of ideas which he produced and elaborated, seemed to surpass human capacity, and always as one of experience, of a practicality which contrasted with the abstractions and theories of his Latin education"

"I think more rapidly than any other man" said Napoleon In the art of mastering men his genius was superhuman All his sayings are fire flashes "Liberty," he exclaimed, "is the necessity of a small and privileged class, endowed with higher faculties than those of the mass of mankind, therefore you can lessen or infringe upon it with impunity Equality, on the other hand, allures the rabble" He possessed a faculty which carries us back to the Middle Ages, an astounding constructive imagination What he accomplished is surprising, but he undertook far more, and dreamed much more even than that However vigorous his practical faculties may have been, his poetic faculty was still stronger, it was even greater than it should have been in a statesman, greatness was exaggerated into immensity, immensity growing into madness He was great, yes, but his greatness became a monstrosity What aspiring, gigantic conceptions revolved, accumulated, superseded each other, in that marvelous brain "Europe" he said, "is but a mole hill Only in the Orient, where six hundred millions of men live, can one establish great empires, excite great revolutions" In Egypt he dreamed of conquering Syria, of re establishing the Eastern Empire, returning to Paris by Adrianople and Vienna The Orient allured him with the mirage of omnipotence and in the Orient, he, the new Mahomet, caught a glimpse of the possibility of creating a new religion, while in Europe he dreamed of rebuilding the Empire of Charlemagne, of making Paris the physical, intellectual and religious capital of Europe, assembling within its precincts the princes, kings, and popes who should have become his vassals, then extending his domain through Russia to the Ganges and the Indian supremacy

From the turmoil of politics rose the artist, creating the impossible in the field of the ideal One soon recognizes him for what he is, a posthumous brother of Dante and Michelangelo though they worked on paper and with marble, he worked upon the sensitive, suffering flesh of living man Neither in the Malatestas nor the Borgias does one find such an impulsive brain, in which the internal tempest is so continuous, so menacing, so sudden in its flashes, capable of such electrical changes and discharges, and so irresistible in its shocks In him no idea remained in a mere state of speculation, each was equivalent to an inward convulsion, which immediately extended into an act" This wonderfully reproduces the epileptic mind in its greatest hypertrophy

Although he traveled through Europe so much he never had a clear idea of the social conditions of the people He thought that in a hundred years Europe would be Russian or republican He was blind to the facts of social life His was an intense intellect, with rays of light in various directions, rather than a solar intelligence which sheds light upon all, he felt the truth in an attack of clearness, or he understood nothing There were many old contradictions in his politics, as when he re established the catholic religion and seized the pope He forbids Gérardin to appear at court, because he is divorced, and later Napoleon is himself divorced He declares the glory of his race to have risen at the battle of Marengo, and then affects regal pomp and heraldry One of his oddest caprices was his passion for making marriages, the number he made and imposed was extraordinary When convalescent at Valencia he married the daughter of his attendant to a young acquaintance He married his brothers, his sisters, his nephews, almost all his generals, When some one refused one of his sisters, he offered her to another, and obliged the marriage to be consummated in two days At St Helena he continued to make marriages among his attendants, and among the children of the generals and governors of his suite Even in his will, in a codicil, he asked the Duke of Istria to marry the daughter of Duroc He believed that a star guided him, and at St Helena he showed fear of a comet He was superstitious about Friday When he broke the glass of the picture of Josephine, which he always carried with him, he feared for her life In making war he always selected propituous days He had the rudimental form of doubting insanity, and was not able to go through a street, even at the head of an army, without counting the windows in pairs There is in this great man the combination of genius with convulsive and psychic epilepsy, which is manifested by impulsiveness, mental absences, cynicism, excessive selfisness, and megalomania And by this example, which can not be an isolated case in nature, one can believe it possible that epilepsy is the substratum of genius

If we further analyze the phenomenon of genius under the light of the new theories upon epilepsy which are being solved today by the clinics and experimentalists, we see the justice of the conclusion that genius is a form of psychic degeneration, of the species epileptoid The lesser number of women of genius supports this theory, as women are more rarely degenerate and more rarely have psychic epilepsy It is proved by the frequent anomalies of asymmetry of the cranium, moral insanity, which I have demonstrated in "Criminal Man" as being a variation of epilepsy, hallucinations, intellectual and venereal precocity, somnambulism, double personality, which has two and sometimes three opposing natures, sometimes obtuse, sometimes exaggerated sensitiveness, the anomalies of the field of view, bluntness of perception, the frequency of suicide, which is very common in epilepsy, and above all, amnesia and analgesia It is also demonstrated by a roving tendency and strange fears by which one is seized, misonism, and an affinity to criminality, the point of union of which is moral insanity Add to it the origin and descent from criminals, inebriates, or from imbeciles, which often marks both the genius and the epileptic, and which is seen in the families of the Cæsars and of Charles V It is shown by insensibility and a lack of moral perception which is common in geniuses One might doubt the conclusion who does not know the extent of the field of epilepsy in modern times, since intermittent hemicrania, scialorrhea and amnesia are now recognized as epilepsy Many forms of monomania are but a guise of the disease, at the appearance of which all other pre existent traces of epilepsy often disappear It is enough to mention the number of geniuses of the first order who were taken with motoria epilepsy, vertigo or passionate anger, in which they lost themselves absolutely, besides Napoleon there were Molière, Julius Cæsar, Musset, Petrarch, Peter the Great, Mahomet, Handel, Swift, Richelieu, Charles V, Flaubert, Dostoyewski, Guerazzi and St Paul Those who suffered from vertigo were Dickens, Swift, Herschell, Faraday and Marlborough Vertigo is simply cortical epileptoid which is accompanied by loss of memory or paralysis, as in Dickens and Faraday, and by convulsions, as in Marlborough As to passionate anger, we recall Peter the Great, the parricide, and Byron, who from childhood fell into such paroxysms that it was sometimes feared he would die of suffocation

For one who understands the binominal law, according to which no phenomenon is isolated, but always the expression of a series of less marked though analogous facts, such frequency of epileptic phenomena among the greatest men indicates that it is more extended among geniuses than one would at first think, and that the nature of genius itself must be epileptic It is important to note how seldom in their lives they have convulsions, and that in such cases the psychic equivalent (which creates genius) is more intense and frequent Above all, the identity of the two great phenomena is proved in the analogy between the epileptic attack and the moment of inspiration, the unconscious and violent activity which creates in the latter, acts motorially in the former Most convincing of all is the analyzation of the creative inspiration, which is sudden, intermittent, frequently associated with unconsciousness irregularity of the pulse and often somnambulism and not seldom accompanied by convulsive movements of the limbs or followed by amnesia It is often occasioned by conditions which provoke or increase cerebral hyperemia, and is followed by hallucinations

The close connection between inspiration and the epileptic attack is pointed out more directly in the words of a great statesman, Beaconsfield 'It often comes into my mind that there is but a step between intense mental concentration and insanity, I can not easily describe what I feel in that instant, it then seems to me that my senses wander and that I am no longer sure of my existence. I recall often having been obliged to refer to a book to see my own name written to assure myself that I lived. During this state my sensations are incredibly acute and intense. Every object appears animated, and it seems to me that I am conscious of the rapid movement of the earth." A modern novelist says: "*It is a* fatality that dictates the idea, an unknown force, a supernatural will, a sort of *necessity* to write which directs the pen and in such a way that when the book is written it no longer seems yours, and you wonder how such a thing could have existed in you and of which you had no consciousness, such is the feeling I had in creating 'La Sœur Philomine.'" (Journal de Goncourt.) Zola, too, in the "Roman Naturaliste," gives us this point on the inspiration of Balzac: "He worked under the operation of certain impulses which are a mystery to us; he was the victim of a capricious power. At times for all the gold in the world he could not have written a line, at other times, in the evening, in the middle of the street or in a morning orgie, a burning coal kindled his brain, his hands, his tongue; on a sudden a word awakens hidden ideas which lie fermenting. So is the artist an humble instrument of a despotic power." "My passions," says Burns, "are wild as demons if they do not find a vent in verse." After writing he felt relieved and consoled.

Such are the confessions of Mahomet, St. Paul and Dostoyewsky. In "Besi" he writes: "Suddenly something opened before him, an extraordinary internal light illumined his mind; there are moments which do not last more than five or six seconds, in which you suddenly feel the presence of eternal harmony. This phenomenon is not terrestrial, nor celestial, but something that man in his earthly development can scarcely endure; he would be obliged to transform himself physically or die. It is an ineffable feeling. Suddenly it seems as if you were put in touch with all nature. There is neither tenderness nor joy; there is no forgiveness, because there is nothing to forgive; there is not even love! Oh! it is a feeling higher than love. The joy which fills one is terrible; if this state should last more than five seconds the spirit could not resist; it would have to vanish. During these five seconds I live an entire human existence, and for it I would give my whole life, and should not feel I were paying too dearly." "Are you not epileptic?" "No." "You will become so. I have heard it said that one begins in just that way. A man subject to this disease [evidently it is Dostoyewsky himself] has described minutely the sensation which precedes the attack, and listening to your description it seemed as if he were speaking. He also said that it would be impossible to sustain this state more than five seconds. Do you remember the vase of Mahomet? While it was being filled the prophet flew to paradise. The vase is your five seconds, and paradise is your harmony; Mahomet was epileptic." ("Besi," Vol. i.) And in the "Idiot": "I remember, among other things, a phenomenon which preceded his attacks of epilepsy, the weakness, the mental marasmus, which proved the disease. There were moments in which his brain suddenly became inflamed, and his vital forces all at once rose to a prodigious degree of intensity. The sensation of life, of conscious existence was increased tenfold in these swift moments. A wonderful light burned in his mind and heart. All agitation became calm, all doubts, all perplexities, melted into a vast harmony. But these radiant moments were but the prelude to the last second which was immediately followed by the attack. This second was truly ineffable. When, later, the prince having recovered, reflected upon it, he said himself: 'If these fugitive moments are owing to sickness and the suspension of normal conditions, then they are not of a higher life, but, on the contrary, one of a lower grade. What matters it if it be a sickness or an abnormal tension, when in looking back, recalling and analyzing it, the greatest degree of harmony and beauty are included'?" In this moment did he not have visions analogous to fantastic dreams produced by intoxication with hasheesh, opium, or wine? He could easily judge all these things when the attack ceased. These moments are marked by the extraordinary exaggeration of the inner sense in the last moment of consciousness which precedes the attack the sufferer can say with full consciousness of his words, "For this moment one would give a lifetime." And without doubt the epileptic in this instant understands the allusion of Mahomet when he said that he visited all the mosques in less time than it took to empty his vase.

That we may see how perfect the correspondence is, compare this description of the psycho epileptic attack with the inspiration of genius, as authors describe it. Berlioz says: "A voice comes from my palpitating chest; it seems as though my heart, under the irritation of an irresistible force, expands as to be dissolved by expansion. Then the skin of my whole body aches and burns, I flush from head to foot. I wish to scream, call the assistance of some one who would console and guide me, and prevent my being destroyed, and detain the life which is ebbing away. I have no thought of death during this crisis, and the thought of suicide is unbearable, I wish to live, live with energies a thousand fold redoubled; it is a prodigious *attitude of happiness and a mania for activity, which can not* be quelled except with devouring, furious realization, according to the measure of its intensity." Goethe said that the melody of his verse, like a tiny, independent, impalpable thing, agitated within him before the words were formed, or the thought itself took shape. And Beethoven said, "I have told it, but they did not understand me, as they can not understand the power of artistic inspiration, as they do not understand that I act in accordance with internal laws, unknown to the vulgar, and that I cease to understand myself when the hour of enthusiasm is passed. Fools! In their cold exaltation, in their free hours, they select a theme, they develop, enlarge it, taking care to repeat it in another tone; they add by rule, wind instruments, or some strange combination. All that is very reasonable, very polished, well studied; but could I work so? They compare me to Michel Angelo. Very well; how did the author of Moses work? With fire and furor; in a frenzy, he then made great strokes in the immovable marble, and forced it in spite of itself, to unlock his living thought sepulchered in the block; and I too compose thus. For me inspiration is that mysterious state in which the entire world seems to form a vast harmony, when every feeling, every thought, echoes in me, when all the forces of nature become my instruments, when a shuddering shakes my whole frame, when my hair stands on end." These expressions demonstrate that where genius shows itself in the highest form, and where there is the greatest differentiation from the normal man, in the moment of inspiration he is more or less in that state of unconsciousness which, according to many, is the true character of epilepsy.

"One of the characteristics of genius," writes Hagen, "is *the irresistible impulse of the act.*" And thus is explained by Kant, Coleridge, Voltaire and Cardano, how works of genius can be created in sleep, as this is also a state of perfect unconsciousness, and how the double personality of genius, in the state of inspiration and in the state of normal mind, is a mystery to itself. The most salient characteristic of genius is therefore unconscious creation, which is the most singular, if not the sole phenomenon of epilepsy; and from that, to deduct that it is a specially divine variation of that *morbo sacro* (I do not repeat this synonym without reason) is a step which, even to the least learned in psychic materia, is not difficult. For those who do not know that in many cases the entire attack consists only in a violent excitation of a single sense followed by amnesia, I mention a patient of mine who is seized by a motorial attack, now only by vertigo accompanied by the sight of a bright yellow light, and another whose attack preceded by aura, consisted in atrocious crural and brachial neuralgia, followed by amnesia. I will add that in some not only the attack, but the whole life, records the psychic phenomenology of the epileptic; but over and above all the example adopted here of Napoleon is enough.—Lombroso: *Rivista d'Italia*, March 15, 1898; translated by A. Goodwin Culver, exclusively for the JOURNAL.

PRACTICAL NOTES

The Diazo Reaction in the Urine.—A. Krokiewicz concludes from a study of 1105 cases (16,167 tests) that the Ehrlich diazo reaction is one of the most important means in our possession for the diagnosis and prognosis of phthisis and abdominal typhus, and also of primary carcinoma of the ovaries. The results are more or less negative in all other affections, including the renal. It always indicates an acute course of the morbid process or an impending relapse, and is independent of the number of bacilli in the sputa. It can be relied upon in every case of abdominal typhus, and in miliary and nearly every other manifestation of tuberculosis.—*Vienna Klin. Woch.*, July 21.

Electric Shock.—This must be treated as promptly as possible, and not only with artificial respiration, but with faradization of the respiratory nerves, the phrenicus, vagus and spinal nerves.—*Munich Med. Woch.*, July 19.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE
Per Annum, in Advance $5 00
Foreign Postage 2 00
Single Copies 10 Cents

In requesting change of address, give old as well as new location

Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No 61 Market Street (Occidental Bldgs) Chicago, Illinois

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SATURDAY, SEPTEMBER 24, 1898

ANOMALIES OF THE DUCT OF MULLER AS THE CAUSE OF ECTOPIC PREGNANCY

Rare forms of ectopic pregnancy are those that develop in accessory tubes or in diverticula of the tube Of each of these varieties HENROTIN and HERZOG[1] have recently described an instance

At the fimbriated end of the Fallopian tube may be found certain accessory organs, which are somewhat difficult to describe Some of them, however, are known under the name of accessory tubes They consist of a canal with an open free end surrounded by fringes, the other end sometimes opening into the Fallopian tube proper These structures are congenital malformations, resulting from anomalies of the duct of Müller It must be mentioned, however, that certain authors believe that these structures and orifices may result from inflammatory processes, followed by proliferation of the wall of the oviduct, with hernia of the mucosa The histologic study of such accessory organs in serial sections has shown conclusively that they depend upon an early embryonal anomaly

RICHARD[2] found accessory organs in five cases out of thirty, VALENTINE and WILLIAMS[2] two in sixty-one In the cases observed by KOSSMANN[2] the accessory canal did not have any connection with the oviduct proper, and he therefore believes that these accessory organs result from infundibuliform invaginations of the serous endothelium, and that sometimes such prolongations may connect with the salpinx

HENROTIN and HERZOG then report a case of ectopic pregnancy which developed in an accessory tube This was a small organ which communicated directly with the lumen of the oviduct proper, without any interruption or modification in the mucous lining, which consisted of cylindrical cells in single layer, and, according to their statement, they have been unable to find any example of tubal pregnancy in an accessory tube whose canal did not communicate with the duct proper The instance occurred in a 27-year-old American woman, whose clinical history did not present any peculiar features, the diagnosis of ruptured extrauterine pregnancy was readily made, prompt recovery followed removal of the adnexa and curettage of the uterus

Diverticula of the walls of the Fallopian tube have long been regarded as playing some rôle in the etiology of ectopic pregnancy, but the number of illustrative cases is so far very small One of the most complete studies of the tubal diverticula is that by WILLIAMS,[3] who describes these diverticula as developing in the interior of the tube and as extending up to the serous covering, they may be lined by a single layer of cylindrical cells with cilia, presenting therefore all the characteristics of the mucous membrane of the Fallopian tube proper These diverticula can not be confounded with accessory tubes, because they do not open upon the exterior and can not be readily recognized from the external surface of the tube In his articles concerning tubal pregnancy ABEL[2] calls attention to the fact that a very tortuous tube may in microscopic sections appear as though its canal is doubled or thrown into diverticula The only example of ectopic pregnancy in a congenital diverticulum of this kind is described by LANDOIS and RHEINSTEIN They found an embryo situated in the superior wall of the tube, separated from the cavity of the tube by a band of connective tissue, so that the only explanation of the condition would be the lodgment of the fecundated ovum in a congenital diverticulum

HENROTIN and HERZOG believe that diverticula of the tube of this kind are due to anomalies of the duct of Müller, which has given origin to a secondary branch This division may result in a double opening into the uterine cavity The first instance of this sort was described by BAUDELOCQUE in 1825 The case described by our authors occurred in a patient of twenty-nine The diagnosis of extra-uterine pregnancy was made clinically, and the uterus and its adnexa were removed As the result of the careful microscopic examination of the specimen it was concluded that the ectopic pregnancy developed in a congenital diverticulum which terminated in a cul-de sac, because there was found in this diverticulum the characteristic elements of the decidua On account of its size it was believed that this diverticulum resulted from a congenital anomaly and not from a pathologic process

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[1] Anomalies du canal de Muller comme cause des grossesses ectopiques, Revue de Gynecologie July August 1898

[2] Quoted by Henrotin and Herzog

[3] American Journal of Medical Sciences 1891 cxxviii p 257

We have abstracted this report because it very clearly emphasized the important rôle that congenital anatomic anomalies may play in the production of pathologic conditions of great significance to the patient

THE RESPONSIBILITIES OF THE ARMY MEDICAL DEPARTMENT

In the JOURNAL of August 13, under the title "An Arraignment of the Army Medical Department," we discussed some of the criticisms of the work of Army medical officers elicited by their reported inability to provide for the comfort and surgical treatment of the wounded after the attack on the Spanish lines at Santiago, Cuba Since then the newspapers have been filled with harrowing reports of suffering in the camps and hospitals, much of which has been attributed to the carelessness, incompetency and inhumanity of the medical men serving with our troops From time to time the Surgeon-General has given to the press extracts from the reports of officers in active service with various commands, to correct the impressions made by the extravagant headlines and sensational exaggerations of certain of these newspapers He has also given statements of the provision made for the sick on special occasions, when the charge had been preferred that the Government had made no such provision But notwithstanding this, so much odium has been thrown upon his department, and particularly on himself, that he has lately given to the papers a definition of the duties and responsibilities of his office "It would require," he says, "superhuman power to meet the expectation of many of those who have criticised the Surgeon-General for his administration of the affairs of the Medical Department of the Army" He apparently has been held to a responsibility for the care of every individual sick, for he explains that regimental medical officers and medical men in charge of wards in hospitals were assigned to this duty He has also been held responsible for the sanitary condition of camps, for he explains that brigade surgeons were appointed to look after the sanitary conditions of brigades, division and corps surgeons to superintend the medical department of their commands, the sanitation of their camps and the equipment and efficiency of their field hospitals, and a Chief Surgeon of the armies in the field to exercise general supervision over the whole It has been urged that the Surgeon-General is responsible for the deeds or misdeeds of his subordinates This would have held good had opportunity been afforded him to test the qualifications of the men appointed to positions in the medical department of the Volunteer Army, but these positions were filled by the State authorities and the appointees very generally had little practical experience in military methods, and particularly in military sanitation As a result of this want of experience, regimental, brigade, division and corps surgeons, however competent as medical men and even as sanitarians in civil life, found it extremely difficult, and in most cases impossible, to control the insanitary influences that pervaded the large camps of hastily organized troops, whose line officers were more concerned with the military equipment and drill of their men than with their preservation from these influences The Regulations of the Army and orders from the War Department published at the suggestion of the Surgeon General give directions with reference to camp sanitation and the care of the sick, and it is the duty of military commanders to see that these are carried into effect, yet the Surgeon General has been held responsible for all the faulty conditions that have been developed by failure to carry out these instructions

The duties of the Surgeon-General are specifically defined, as are those of the regimental surgeon As stated, he makes the assignments of officers as chief surgeons of corps and divisions He has charge of all general hospitals and of hospital corps, of the medical supply depots, of the payment of all bills against the Medical Department, and of the collection of all reports and papers relating to the disabilities of individual men in the military service The general hospitals are those at Key West, Fla , Fort Thomas, Ky , the Leiter and Sternberg Hospitals in Chickamauga Park, the hospitals at Fort McPherson, Ga , Fort Myer and Fortress Monroe, Va , the temporary hospital at Montauk Point, Long Island, and the Josiah Simpson Hospital, a newly finished pavilion hospital of 1000 beds near Hampton, Va The hospital ships are the *Relief* and the *Missouri* The failure of Congress to provide a hospital corps for the large volunteer army which was so suddenly brought into existence, had to be met in part by hastily organizing a force of contract nurses Although the Surgeon-General is responsible for the purchase and issue of medical supplies, it is impossible for him to foresee the local wants in different parts of the country Hence the necessity for requisitions from the local officers The difficulty of getting war material to crowded camps has added a medical phrase to the vocabulary of the newspaper reporter, "the congestion of the lines of transportation" This congestion has frequently been the cause of complaint of want of supplies

It is very evident to one who looks on from the outside, that the difficulties encountered by the Army Medical Department were due to the impossibility of having, in so short a time, an experienced and well-disciplined medical force sufficiently strong in numbers to control the sanitary situation in an aggregation of a quarter of a million of men hurriedly thrown together in military camps Detailed reports from Santiago show how nobly the medical men of the

Fifth Army Corps acted during and after the fight, notwithstanding the failure of the Quartermaster's Department to land and bring up the supplies, yet the press despatches charged them at the time with carelessness and incompetence. Similar detailed reports, when brought out later, will show as clearly the earnest efforts of the Medical Department, from the Surgeon-General down, to protect the troops in the camps in this country from the effects of their own ignorance and want of military training.

INSANE ARTISTS

The recent paretic dementia of MUNKACZI, the Hungarian artist, has attracted no little attention to the question of insanity in artists. Prominent among the many contributions to the subject is ARREAT'S "Pathology of Artists." In this a large number of artists are described as having either acquired or inherited psychoses. What disappears first in insanity is, as ARREAT remarks, the power of special inhibition and general control. The mind is free to impulses born of disease. The artist loses judgment of images relative to his art which are then offered to him. Disorder begins in his ideas of painting and is shown in his choice of subjects and defects of harmony in composition. Errors in design come first, technical memory long survives, that is, the mechanical association of visual and motor images. Though the professional memory of an artist be a thing acquired and improved, yet it has roots in the association of images composed of innate tendencies formed in specially gifted brains.

Sense of color and its contrasts were deficient in early races. Even as high a race as the Greeks exhibited decided deficiencies in this particular. Primeval and medieval art exhibits the same peculiarity and it atavistically appears in the insane. In alcoholic insanity and paretic dementia the color sense is often destroyed. LOMBROSO finds that the alcoholic lunatics use yellow excessively in their pictures. One paroxysmally alcoholic lunatic, who lost all sense of color, became very skilful in depicting white, and between his attacks was the best snow painter in France. A paretic dement artist, after the onset of his disease, collected miserable oleographs which he colored green. (*Alienist and Neurologist*, Vol. xiii.) A paranoiac, at one time under KIERNAN'S care, painted "A Struggle of the Youth and the Amazons" at its voluptuous termination in various tints of green. The effect, which was ghastly in the extreme, recalled the preference of MURGER for women with green lips. The artist was not color-blind, but attached a peculiar symbolism to this use of green. This was clearly a reversion to a fetichistic canon of art such as regulated the productions of the Egyptians and Greeks and appeared in the middle ages as a consequence of the intellectual storm and stress resultant on Christian reaction against fanatic vandalism. The tendencies to undue use of analogies lead to color and shade otherwise inexplicable. Such uses of color lead to interpretations seemingly at variance with the subject depicted. Thus, as RUSKIN has pointed out, some of CORREGGIO'S Madonnas—and the same is sometimes true of RAPHAEL—often suggest voluptuousness. On the other hand, Phryne has been so depicted as to create sympathy for violated purity. Many of these contrasts pushed to the extreme appear to be insane, from the tendency to attach occult significance to trivial analogies. In "His Masterpiece" ZOLA vividly depicts this innate insane tendency to symbolism which causes terrible defects to appear in the otherwise beautiful paintings of Claude Lantier, the artistic brother of Nana, the genius of the degenerate Rougon-Macquart family.

Atavistic tendencies explain the appearance of artistic powers during insanity as the result of a conservative tendency struggling with disease. A hypomaniac period sometimes so removes inhibitions of early training that difficulties are ignored and a seemingly mediocre artist executes a good work. PAOLI reports the case of an insane artist whose copy of a Madonna of RAPHAEL, painted during an attack, gained a prize medal at the exhibition. It is evident from the relative infrequency of artists among the English-speaking insane, as compared with the mechanicians, that a conservative factor has much to do with the appearance of artistic "sports" among the insane. The influence of the same factor is evident in the relative frequency of the insane with artistic tendencies among the patients of the insane hospitals of the Italian districts which have furnished most artists. It is also demonstrable in the atavistic effects of disease on artists who become insane. ANDRIANI found that four out of eight acutely maniacal painters retained their skill during the attack. In two, bizarre ideas appeared, while the work of two more markedly deteriorated, so much so, that in one instance the patient bitterly deplored after his recovery the work done during his insanity.

Paretic dement artists lose all sense of proportion; they begin to stretch trees which, if drawn in their entirety would pass beyond the frame. Exaggeration pushed to the improbable and even the impossible characterizes paretic dementia art, according to REGNARD. One of his patients painted a man whose head touched the stars while his feet were on the earth. As LOMBROSO forcibly points out in the "Man of Genius" paretic dement art effects are generally due to amnesia. Paretics often omit essentials from this cause. In a case observed by FRIGERIO a paretic dement drew a picture of a general seated, but forgot the chair. SIMON had under care a paretic dement who believed himself to be a second HORACE VERNET, yet drew horses with four strokes and a tail.

The most salient characteristic of art in mania is, according to LOMBROSO, **absurdity in** drawing or coloring due to exaggerated [illegible] of [illegible] throug which the connecting links that would serve to explain the author's meaning are lost A maniac artist painted "The Marriage at Cana of Galilee " He drew the "Apostles" excellently, but in place of Christ put a large bouquet of flowers The existence of an archaic symbolism is here apparent A periodic lunatic, during the paralucid intervals, painted fairly but with excessive minuteness During the attacks this minuteness became grotesquely exaggerated

According to Ruskin, the grotesque in art is divisible into three kinds Art arising from healthy but illogical play of imagination in times of rest, art arising from irregular and accidental contemplations of terrible things or evil in general, and art arising from the confusion of the imagination by the presence of truths which it can not perfectly grasp All these types of the grotesque are found in the insane, particularly the last two The first is rare, but it does exist Since art, an early acquirement of the race (as witness the Dordogne caves), is less affected by insanity than later acquirements it results that insanity at times merely tinges art Thus a periodically insane Italian mason became a painter when a patient at the Pesaro insane hospital His attacks were always announced by a tendency to caricature the hospital staff, whom he condemned in effigy to strange punishments The cook offended him, whereupon he painted the cook as a stout, ruddy man in the attitude of an *ecce homo* behind a grating which prevented him from touching the appetizing viands placed before it A patient of Dr Virgilio drew an excellent portrait of a maniac *in furore* Mancini, after his recovery from insanity, painted a Woman Offering for Sale a Picture Painted by a Lunatic " Magnoni had remained for fourteen years listless and idle in the Reggio insane hospital Dr Rani induced him to paint, whereupon he covered the walls of the ward with excellent frescoes One of these depicted the story of Ugolino so vividly that a patient threw meat to the father and children to prevent them from starving According to Magnam, Gill came of a family rife with apoplexy and degeneracy Like degeneratively-tainted dements, Gill had seemingly perfect lucid remissions During one of these remissions he sent to the "Salon" a picture of a melancholiac with depressing delusions crouching in one corner of a seclusion-room in an insane hospital Later he sent to the "Salon " "Salome with the Head of John the Baptist in a Charger " The decapitated head was his own, the plate was simply twenty-franc pieces joined by their edges The symbolism here evident was certainly not of a purely insane type

Many artists who have ranked high have exhibited elsewhere than in art their insane taint While Arreat claims that Leonardo da Vinci and Michael Angelo were on the "sane" side of the border line, he points out that they exhibited peculiarities Da Vinci had inchoate persecutory delusions, to which in no small degree were due his errabund tendencies Independently of Michael Angelo's sexual inversion, he had more than one hallucination He deserted his post in Florence in 1529 when it was beseiged by the imperialists He thus accounted for this performance to Della Porta

> How did I quit Florence? It is a problem I can not solve A man came to conduct me to the bastion There we examined everything, and a voice murmured in my ear, "There is nothing here for those to do who wish to save life and honor " Whether God or the Devil impelled me I can not tell

Turner exhibited degenerative taint, while Hayden, Landseer and Romney became insane The greatest artist of the English speaking countries who had a decidedly degenerate insane taint must be admitted to be Blake, who was the son of a hosier, and, like Turner, was of stunted growth In his youth he exhibited a genius for art and poetry When a boy, in his father's shop, he drew pictures on the counter and wrote poetry on the backs of bills He was moody, mystical and led a life of dreamy abstraction He had hallucinations of hearing, celestial voices called him He became an engraver, but wrote poetry copiously Between his twelfth and fifteenth years he had written seventy pages Visual hallucinations of poets, heroes and princes occurred, which he accepted as real His designs were revelations which he was commanded to publish by celestial voices He claimed that from his dead brother he learned that truly beautiful *and original method used in engraving and tinting* his plates This spirit counselled him as to the treatment of his best known and most successful works, "Days of Innocence " "Write, ' said the spirit, "the poetry, and draw the designs on copper with a liquid (which Blake always kept secret), then cut the plain parts of the plate down with aquafortis This will give the whole, both poetry and figures, in the manner of the stereoscope " Jesus Christ taught him how to mix his colors The "Gates of Paradise," another of Blake's works, ambitious in scope and quite incomprehensible, consists of twenty seven designs It is seemingly intended to embody the fall of Lucifer and the creation of man, and swarms with figures demoniac, human, and divine Blake's colossal egotism is evident in a letter written in 1800 to Flaxman

> I am more famed in Heaven for my works than I can well conceive In my brain are studies and chambers filled with books and pictures of old, which I wrote and printed in ages of eternity, before my mortal life, and these works are the delight and study of archangels Why then should I be anxious about the riches of fame or mortality?

Moses, Virgil, Dante and Milton are seen by Blake as "majestic shadows, gray but luminous, and superior to the common height of men " Blake's mind, as Allan Cunningham remarks, at all times resembles the page in the magician's book of glamour which made

> The cobwebs on the dungeon wall
> Seem tapestry in lordly hall

Blake's defects arose from the fact that he did not always clearly distinguish between the real and the ideal visualization His mind could convert the most ordinary occurrence into something mystic and supernatural He often saw less majestic shapes than those of the poets of old

"Did you ever see a fairy funeral, madam?" asked Blake of a lady "Never," was the reply "I have," said Blake, "but never before last night I was alone in my garden There was great stillness among the branches and flowers, and more than common sweetness in the air I heard a low and pleasant sound, and knew not whence it came At last I saw a broad leaf of a flower move, and underneath I saw a procession of creatures of the size and color of green and gray grasshoppers bearing a body laid on a rose leaf, which they buried with songs and then disappeared It was a fairy funeral"

He talked, as Ireland remarks, familiarly with his supernatural visitors The specters that entered his room were used as models He would look at them a while, then draw a little and then look up again Sometimes he would stop at his work, saying that the spirits had walked off Once he drew King Saul in armor, but could not finish the helmet because from the way Saul was standing he could not see the whole of it Some months after, the specter of Saul came back, and obligingly stood in such a position that Blake could sketch the helmet Once he was employed to furnish a likeness of Sir William Wallace In the presence of his employer Blake cried out "Sir William Wallace there—there I see him in all his glory" He commenced to draw, but suddenly paused When asked why, he replied "I can not finish him Edward I has stepped in between him and me" "That is lucky," responded his employer, "for I want him also" Blake sketched the Plantagenet on a sheet of paper, whereupon his majesty politely gave place to Sir William Wallace Blake's rapid visualization of correlated association was often present A friend of Blake, who collected several of his sketches which illustrate this same peculiarity, once remarked

> Observe the poetic fervor of that face It is Pindar as he stood a conqueror in the Olympic games This lovely creature is Corinna, who conquered in poetry at the same place That lady is Lais, the courtesan With the impudence which is part of her trade she stepped in between Blake and Corinna and he was obliged to paint her to get rid of her

The most grotesquely curious of Blake's visions was his "ghost of a flea," anent which Allen Cunningham cites this history

> This is the greatest curiosity of all Only look at the splendor of the coloring and the original character of the thing You see a naked figure, with a strong body and short neck, with burning eyes which long and moisten, and a face worthy of a murderer, holding a bloody cup in its clawed hands, out of which it seems eager to drink You never saw any shape so strange, nor did I ever see any coloring so curiously splendid—a kind of glistening green and dusky gold beautifully varnished It is the ghost of a flea, a spiritualization of the thing

Blake one evening was more than usually excited and told the friend he had seen a wonderful thing—the ghost of a flea "And did you make a drawing of him," the friend inquired "No, indeed," he replied, "I wish I had, but I shall if he appears again' He looked earnestly into a corner and said "Here he is, reach me my things, I shall keep my eye on him There he comes, his eager tongue whisking out of his mouth, a cup in his claw to hold blood, and covered with a scaly skin of gold and green"

The more demonstrably insane productions of certain artists display this symbolic tendency to find the occult in the real Like another insane artist of less genius but greater suspicional delusions, Benjamin Haydon, Blake appealed to the general public with an exhibition of designs chiefly "of a spiritual and political nature" But (Allen Cunningham) the spiritual work and political notions of Blake were unlike those of any one else One piece represented "The Spiritual Form of Newton Guiding Leviathan," and another "The Spiritual Form of Pitt Guiding Behemoth" Those who missed instruction in his pictures found entertainment in his catalogue, which was a wild performance overflowing with oddities and dreams and evidently an enunciation of Blake's notions of the laws of art Anent color Blake remarks

> Coloring does not depend on where the color is put on, where the lights and darks are put but all depends on form or outline Where that is wrong coloring can never be right, and it is always wrong in Titian, Correggio, Rubens and Rembrandt Until we get rid of them we shall never equal Raphael and Albert Durer, Michael Angelo and Julio Romano Clearness and precision have been my chief object in painting these pictures, clear color, and firm determinate lineaments unbroken by shadows, which ought to display and not hide form, as is the practice of the later schools of Italy and Flanders Oil has been falsely supposed to give strength to colors, but a little consideration must show the fallacy of that opinion Oil will not drink or absorb color enough to stand the test of any little item and of the air Let all the works of the artists since Rubens' time witness to the villainy of those who first brought oil painting into general opinion and practice, since which we have never had a picture painted that would show itself by the side of an earlier composition This is an awful thing to say to oil painters, they may call it madness but it is true All the genuine, old, little paintings are in fresco not in oil

Those "abominations concealed outlines and tricks of color," bringing on one of those visionary fits to which Blake was liable, he narrates with the most amusing wildness sundry revelations made to him anent them Certain painters, according to Blake, are demons let loose on earth to confound the sharp, wiry outlines and fill men's minds with fear and perturbation. He admits that he himself was for some time a miserable instrument in the hands of "chiaroscuro demons," who employed him in making "experiment pictures in oil." Anent which he writes:

These pictures were the result of *temptations* and perturbations, laboring to destroy imaginative power by means of that infernal machine called chiaroscuro in the hands of Venetian and Flemish demons who hate Roman and Florentine schools. They cause that everything in art shall become a machine; they cause that the execution shall be all blocked up with brown shadows. They put the artist in fear and doubt of his own original conception. The spirit of Titian is particularly active in raising doubts concerning the possibility of executing without a model. Rubens is a most outrageous demon, and by infusing the remembrance of his picture and style of execution, hinders all power of individual thought. Correggio is a soft, effeminate, and consequently most cruel, demon, whose whole delight is to cause endless labor to whoever suffers him to enter his mind.

Titian was, however, the most malignant of his persecutors. He told Charles Lamb that all the while he was engaged on his water painting, Titian was disturbing him—Titian, the evil genius of oil painting. Blake's intense belief in his mentally reached visions was so infectious that, as Allan Cunningham remarks, some acute and sensible persons who heard him expatiate, shook their heads and hinted that he was an extraordinary man and there might be something in the matter. His wife, a modest, loving, intelligent but not highly educated woman, accepted the truth of all his visions. As so often happens with paranoiacs, *folie-a-deux* resulted, but, as Blake's persecutors were in the ideal world, no serious consequences followed. Blake's mental defect showed itself in his inability to distinguish the objective from active reproductions of the memory. He partially recognized the mental origin of some of his visions. "The other evening, taking a walk," said he quietly, one night, "I came to a meadow, and at the farther end of it I saw a fold of lambs coming nearer, the ground blushed with flowers and the wattled cote and its woolly tenants were of an exquisite pastoral beauty. But it proved to be no living flock, but beautiful sculpture." A lady present thinking this a capital holiday show for her children, eagerly interposed, "I beg pardon, Mr. Blake, but may I ask where you saw this?" "Here, madam," answered Blake, touching his forehead.

As a rule, however, productions of Blake's visualizing powers were facts to him, not mental visions, whence the incomprehensibility of much of his work. When the fact element is uppermost, puerile minuteness and repetition mar the work. The bathos of insane egotism swamps the artist.

Let us have a Department of Public Health!

THE HYGIENE OF MUSIC AGAIN

Some little time ago this journal editorially called attention to what, in a medical point of view, appeared to be some insalutary possibilities of the over-encouragement of musical culture, and in so doing noticed briefly some of the theories of the origin of the musical sense and emphasized a little the fact that it is essentially a sensuous and emotional faculty, not in any intrinsic sense an intellectual one. An esteemed correspondent has found in the said editorial, matter to which he strongly objects, and accuses us of over-magnifying the value of the merely useful, and under-estimating that of the higher incitants of the imagination. As he appears to have misunderstood the whole spirit and tenor of the editorial referred to, it may be well to take up the subject again and state, it may be more plainly, the idea it was intended to convey.

There is no rational being that can honestly deny the utility of the pleasures of life, and music is certainly one of the highest of these. This, however, does not alter the fact that excessive indulgence in any of them not only may be, but must necessarily be, harmful to the individual, and that this is true as well of those that are usually reckoned as higher and more refined as of the grosser sensual appetites and tastes. The difference is mainly one of degree; music does not necessarily or always refine the disposition, and natural brutality may be aggravated by undue emotional excitation in this way as in any other. It does not tend essentially to improve morals any more than intellect, in spite of what Dr. Mettler says there are more than there should be among musical celebrities who have been deficient in the former, and the intellectual giants among them are few and hard to find.

It is not with intellect or morals, however, that the medical interest of the question of the hygiene of music has mainly to do; the point in the editorial referred to was the possibility of its excessive culture inducing morbid developments in impressible subjects, a danger which, it is believed, has been too much overlooked. The question was also raised whether this danger was not augmented with the popularity of certain modern types of music, more particularly that of Wagner and his followers, the cult of which seems to fall in well with the various "intensity" fads lately in vogue. The emotional erethism incited by some of this modern music must, judging by the language of some of its devotees, be something altogether beyond the comprehension, not to say the appreciation, of the uninitiated. As was said before, their descriptions suggest more than anything else a perversion of a sense and a morbid, unnatural enjoyment. It may not be scientific to quote Nordau, but there may be more truth than poetry in his characterization of the present dominant spirit in music as a symptom of degeneration. The classic masters of the earlier half of this century would hardly sympathize with it, if a Mendelssohn could not enjoy a Berlioz or a Liszt, he could hardly endure a Wagner or a Rubinstein

The pathologic possibilities of music are not confined, however, to to the higher-grade music of the concert-room or opera, but may be found in the simplest melodies, anything that can thoroughly stir up the emotions possesses them It would obviously not be a wise thing to constantly play the Ranz des Vaches to a Swiss mercenary, or "Lochaber no More" to a Highland exile The over cultivation of music by some impressible individuals has had disastrous effects, its results have been observed in asylums for the insane, and any too general and indiscriminating tendency this way, it is not hard to believe, may have general bad results, if we can credit such an observer as Lawson Tait

The dancing mania of the middle ages is a fair example of misguided and misdirected musical and religious enthusiasm

It does not follow that because one is able to see these possibilities, he has lost his appreciation of the beautiful, or has been reduced to the level of bald Gradgrind utilitarianism Nor does the recognition of the fact, for such it is, that the musical faculty is essentially not an intellectual one, imply that the individual has no musical taste or capacity for enjoyment of sweet sounds Life without its pleasures would be a hard thing to endure, but, as physicians, we should not shut our eyes to the misuse of even excellent things when it concerns our bodily salvation

CORRESPONDENCE

The Association and the Colleges

Trenton, Tenn , Sept 12, 1898

To the Editor —I have before me Dr D S Reynolds' reply to my note on page 547 of the Journal When I presided over the Association in Denver, I acted *then* in my official capacity, *now* I am only a member of the American Medical Association, and as such have a right to criticise any of its actions In the hurry of business, a presiding officer puts such motions as are made, if they are not plainly out of order, when no point of order is made against them, just as was done in the resolutions offered by Dr Hare in regard to the admission of the members from the State of New York, who were not in affiliation with the recognized Society in that State The question was discussed at some length before the point of order was made against it that it was out of order because it involved a change in our Constitution in regard to membership The chair at once ruled the question out of order, and no appeal was taken A legislative body frequently passes an unconstitutional act, and it is so declared by our courts of last resort The "Court of Last Resort" in the American Medical Association is the Association itself, and the fact that a matter has been adopted, even by a vote in which there were no negative votes cast, does not make it legal I do not plead ignorance of law Those who know me best know that I *never* make that plea It is the *knowledge* of law that I am pleading, and that very fact has induced me to call up this matter Any one at all posted on law knows that no by law can be passed which contravenes the constitution or charter which it interprets All by laws, or if Dr Dudley prefers the expression, ordinances, must conform to the charter or constitution, or they are unconstitutional, and hence not binding An unconstitutional act can not be enforced The constitution alone can fix the qualifications for membership, and any attempt to change this qualification is an attempt to alter or amend the constitution, and must be treated as such To amend our constitution, only one way or method of procedure is laid down, and that is found on page 9, section 7, "Provision for Amendment," already mentioned in my first communication The specifications to which Dr Dudley refers in the by laws conform to the constitution of the American Medical Association, but this new action of the Association at Denver in regard to the colleges, goes beyond the requirements of the constitution for membership and hence is void

There can be no "technical quibble about attempting to make the resolution appear as an amendment to the constitution" It is either an effort to amend, or it is not There is nothing "technical," nor is there any quibble It is a straightforward presentation of the facts in the case It is certainly in the province of the Association to fix any requirements for membership it may see fit, but this must be done in a legal way The object of the constitution in requiring one year's notice of such proposed amendments is too plain It is to give notice to all interested in the matter, so that "the unexpected" may not happen

Dr Dudley is unfortunate in his reference to the law in regard to amending the by laws The order of business is a by law itself, and the provision, to which reference is made, only relates to that one special by law providing for changes in the order of business so as to allow the Association by a three fourths vote to take up any special item and consider it, regardless of the order of the call This provision is as it should be, because without it unfinished and miscellaneous business (Sec 15) might never be reached As to the standard of qualifications for the practice of medicine, each State is regulating that, and a diploma of a college demanding five courses would have no more weight than would one issued by a college requiring two or three courses only With that the Association has nothing to do The Association has a right to fix, and can fix in a *legal* way a standard for admission into the membership of the American Medical Association, but it can not say what "can be accepted of any candidate for admission to the regular medical profession of the United States" The code of ethics governs admissions into the ranks of the regular medical profession

I do not propose to be drawn into a discussion in regard to the number of terms that may be necessary for students to acquire a sufficient amount of medical lore to enable them understandingly to begin the practice of medicine It can be summed up in one sentence Some who attend medical schools *never* learn enough

I am not a college professor, nor am I related by "affinity or consanguinity" to any one connected with a medical college, and hence what I say or do in this matter can not be due to college bias

T J Happel, M D

The Medical College Resolution

Nashville, Tenn , Sept 12, 1898

To the Editor —In a communication from Dr Happel, which recently appeared in the Journal, I learn that he was misled by a statement made by the Secretary of the Business Committee, when he reported on the medical college resolution Dr Bulkley had no authority to state that the Southern Medical College Association, through one of its members, had given assent to the resolution I was the member referred to and certainly did not say anything that would justify the statement made by Dr Bulkley I did appear before a com

mittee of the Executive Co did also ley

Reynolds, a member of the cil of t n

College Association. I stated to the committee that the Southern College Association would take final action at its next annual meeting, which would be held in Memphis in November next, on an amendment to the constitution looking to the establishment of a four years' graded course. I further stated that I had no reason to believe otherwise, than that this action would result in the establishment of the four years' graded course, thus placing the Southern colleges on the same plane with the colleges of the American College Association. I argued that those students who had matriculated in our various colleges, prior to this change in the constitution would be entitled to graduate at the end of three years, and asked that the resolution be modified so as to allow our colleges this privilege. The sub-committee would not listen to so long an extension of time. Finally the conclusion was reached that the class of 1898-99 could be graduated at the end of the third year, and not affect the membership in the American Medical Association of individuals connected with these colleges. I saw that this was the best that could be done, and then it was that I said: "If, in your report, you make it appear that the Southern colleges are not being driven in this matter I will not fight the resolution; but if you do not make it so appear then I will be forced, in the interest of the Southern Medical College Association to do my best toward defeating the resolution." I was present when the Executive Committee made its report, through its Secretary, and was surprised as to the manner in which the report was made; but seeing that the intention of the Secretary was to show that the Southern colleges were not being driven, to comply with my promise not to fight the resolution, I said nothing.

Up to this time it had not occurred to me, and it seems that it had not occurred to any one else, that the whole thing was out of order, or I should have raised that point, which, if sustained by the presiding officer, would have delayed final action for one year.

Dr. Reynolds' reply to Dr. Happel's communication is beyond all doubt incorrect. So vital a thing as the question of membership of an organization would not fail to be included in the constitution of such an organization. The matter of "membership" and "rules of order" are very different things; the latter always being in the by-laws, the former always in the constitution. By-laws, and resolutions not intended as law at all, when in conflict with the constitution of any organization, would certainly be null and void. An amendment to the constitution of any organization should never be rushed rapidly through to final action. Hence the very important feature of all constitutions is that they can not be changed without some due consideration, and after an interval of time longer or shorter. Such an amendment must always refer to the article and to the section to be amended.

Dr. Reynolds ought to know, and I presume he does, that Dr. Happel's statement touching the unconstitutional nature of the resolution, could have only the force of a non-official member of the body, but that the opinion expressed by Dr. Happel is correct, no one who is unprejudiced in this matter can doubt. The Judicial Council is the body to which this resolution will have to be referred at the next annual meeting. If this Council finds the resolution to conflict with the constitution of the American Medical Association, their decision can be but one thing, and that is that the resolution is null and void.

With the present feeling in the Association there could be no doubt but that an amendment to the constitution, similar to the resolution that was passed in Denver, will be introduced in proper form, at the next meeting, and that it will be finally acted on favorably, at the annual meeting in 1900. In the meantime the colleges constituting the Southern College Association will have carried out their original intention of extending the course of medical instruction to four years. The amendment was introduced two years ago, and would have been acted on finally at the annual meeting in May 1897, except for a request from Tulane University (whose delegate was unable to attend because of the flood) that final action be deferred until the next meeting.

G. C. Savage.

A Case in Obstetrics

Sioux Falls, S. D., Sept. 10, 1898.

To the Editor:—On responding to a call in the country, July 24, to attend Mrs. S. in confinement, I found myself confronted with complications different from anything I had ever before encountered.

I reached the home of my patient, about seven miles from town, about noon. She was a large, muscular woman about 42 years of age, living with her second husband. She had given birth to ten children by her first husband, the oldest now 19 years of age. She had also had three miscarriages, one since living with her present husband.

I found her in bed, lying partially on her right side, with head and shoulders raised by pillows and her lower extremities elevated, because of a violent hemorrhage which had taken place. She was sweating profusely, was very cyanotic, with painful dyspnea, was coughing incessantly, raising enormous quantities of thick, tenacious mucous of a pinkish tint. Pulse 120 and irregular. Inspection revealed a very large abdomen, with very lax walls, so that the uterus and contents would roll from side to side, as she turned. There was complete inertia of the uterus; it seemed large enough to contain twice its contents. A digital examination brought on a profuse discharge of dark, stale, foul smelling clots. I was unable per vaginam to make out the presentation, but by external manipulation decided it to be a breech. I had never before found a fetus so movable in utero; it slipped about so freely that I would sometimes find the breech and sometimes the head presenting, perplexing me not a little. I could make out no fetal heart-sounds, so decided we had a dead fetus to deliver, though the mother insisted motion had continued up to that time and that she could still feel it. On close questioning, she admitted that up to just four weeks previously movements had been strong, painful and annoying, but for the past four weeks had been slow and gentle. Knowing that a dead fetus will roll about enough to simulate motion, I thought nothing of this. She stated that about 2 o'clock, A.M., she had felt a desire to urinate and got up upon the chamber, when the membranes ruptured and nearly filled the vessel with a very dark brownish liquid. A neighboring midwife was sent for, who on her arrival became alarmed at the large quantity of dark, foul smelling clots that were coming away, recommended that a doctor be sent for. Any attempt to manipulate the uterus to excite contraction, or to introduce my hand into the vagina, would greatly aggravate the cough and dyspnea. Patient appeared much alarmed, complained of the dyspnea and said she felt as though her lungs were filled up "clear to the palate." Loud mucous râles could be heard all over the chest. Not deeming it safe to administer an anesthetic, I gave her a teaspoonful of ergot, together with ¼ grain of extract of belladonna, ¼ grain of codein, and six drops of chloroform. In an hour I gave her half a teaspoonful of ergot and repeated the belladonna and chloroform, omitting the codein. The cough and expectoration subsided, the dyspnea disappeared, hemorrhage stopped and pulse came down to 100. Within an hour after the second dose she was able to turn upon her right side and, with pillows removed, rest quietly. Previously she had been unable to lie either upon her right side or back. The uterus began to contract feebly, but regularly, though any attempt at manipulation would bring on the cough and dyspnea. I then administered a three grain pill of ergotin and a two grain of quinin and awaited developments. Pains grew more frequent and regular until about 11 P.M., when they became strong and natural

Introducing two fingers into the vagina, I now succeeded in hooking into the groin of the fetus and delivering it promptly It had the appearance of being somewhat immature and of having been dead a long time The secundines were delivered in the usual manner in about twenty minutes

My attention was attracted to the extreme length of the cord Upon examination, I found a large, firm knot near the center, revealing the cause of the death of the child It was not simply a single knot, but a complete figure 8 The cord had apparently become looped, twisted once upon itself and the loop had passed completely over the fetus and been drawn tight, shutting off the circulation Untying the knot and measuring the cord I found it to be *forty seven* inches long, by careful measurement Forty inches is the longest I had ever before found After the removal of the placenta and clots the uterus contracted normally and the patient felt relieved of all her distressing symptoms

My theory, which may not be correct, is that after the cord became tied the placenta was detached and hemorrhage took place, distending the uterus abnormally, finally being limited and controlled by the size of the uterus, and for some reason it could not escape from the os, the clots remaining in utero until after the rupture of the membranes, when they were allowed to escape The cough, with profuse expectoration, the dyspnea, cyanosis, perspiration and high pulse were, I believe, due to absorption of toxic material from within the uterus I report the case, hoping it may be as interesting and instructive to some of the readers of the JOURNAL as it has been to the writer

A H TUFTS, M D

Braces in Spinal Curvature

CHICAGO, Sept 12, 1898

To the Editor —In the JOURNAL of Sept 10, 1898, there appears an editorial entitled "Braces in Spinal Curvature" which contains so many half truths, to put it gently, that it should not pass without comment

The editorial writer says "The two conditions of tubercular caries and spinal curvature differ so widely in their causation, symptomatology and treatment that each must have a clear cut picture in our mind when examining soinal caries " This is true in so far as causation and treatment go, but it is not true in all cases in so far as symptomatology is concerned It is true that there are cases that distinctly differ, and there are other cases where those having the greatest experience can not at once differentiate Lateral spinal curvature may not simulate tubercular caries, indeed there would be no serious harm done to the patient by the treatment if it did, but tubercular caries in the early stage, before the characteristic posterior deformity has developed, may simulate spinal curvature so closely that a certain diagnosis can not be made by any one on the first examination This is a serious matter, for tubercular caries will be seriously aggravated if it be treated for spinal curvature In all cases of doubt the benefit of the doubt should be given to tubercular caries, and the case treated by some efficient form of immobilizing apparatus

Now as to symptoms A reflex rigidity of the spine is the only constant symptom in tubercular caries Pain is rarely present until months after a diagnosis should have been made, and in many cases it is never complained of during the entire course of the disease Pain on motion is rarely present except when the patient is caught off his guard The involuntary muscular rigidity, above referred to, protects the spine from motion, which otherwise would be painful It is a very fatal error to regard pain as a constant symptom in tubercular caries of the spine or of other bones I have reported a case of hip disease that passed to a flexion deformity of ninety degrees and absolute loss of motion, then through a complete reduction of the deformity by a leverage brace, through the development and spontaneous evacuation of two large abscesses, and finally to recovery with good motion at the end of six years, that never had a minute's pain or tenderness, and was all the time able to walk on the leg and also to stand on it alone, and holding up the well leg, hop about without the slightest sensitiveness "Angular deformity in an anteroposterior plane" is a comparatively late symptom, he who can not make a certain diagnosis long before the development of "angular deformity in an antero posterior plane," is very ill fitted to treat a case of tubercular caries of the spine Lateral deformity, simulating lateral curvature, is an early symptom in nearly half of the cases Abscesses appear in less than half of the cases and paralysis, fortunately, is very rare These should be counted as complications and not as symptoms of tubercular spinal caries If the diagnosis is made early, tubercular caries of the spine will be found in well nourished as often as in ill nourished children, it is only when it has remained unrecognized for months, perhaps until pain is complained of and angular deformity has developed, that the children nearly all become poorly nourished

As to lateral curvature of the spine It has not been demonstrated by any one that the predisposing causes are prolonged ill health or rapid growth As a rule these cases have not grown rapidly, they are undersized, and have never had any special ill health, prolonged or otherwise It is true that it is usually noticed by the dressmaker, between the ages of twelve and twenty years, but it can be found, if looked for, many years earlier, as shown by Ketch of New York No one has shown any hypertrophy in the muscles of either side, if it were on either side it could not be on the side of the convexity, as claimed by your editorial writer, and further, it has been clearly proven by Scudder, of Boston, that there is no muscular hypertrophy, or atrophy, or muscular weakness, or difference in the strength of the muscles of the two sides in the ordinary cases of lateral spinal curvature A tilted pelvis arises from a short leg, and one short leg is found in sixty per cent of children who have no lateral curvature, as was long ago shown by Morton, of Philadelphia When there is a short leg and a tilted pelvis in conjunction with lateral curvature it is found quite as often on the wrong side as on the right side That is to say, with a right dorsal and left lumbar curvature the pelvis should be oblique, the right side high and the left low, and the left leg shorter than the right Quite as often as otherwise the right leg is half an inch shorter than the left, as reported by me many years ago, and since confirmed by many observers A word as to the treatment In slight cases, especially in postural cases, "apparatus," that is, braces and corsets, is not necessary In cases where there is any of what Roth calls "osseous deformity" "apparatus" is necessary if reduction of deformity is to be gained, and often, if the progress of the deformity is to be checked, but the "apparatus" should always be used in conjunction with exercises given by the surgeon himself

Respectfully yours,

JOHN RIDLON

American Public Health Association—Twenty-Sixth Annual Meeting

CHICAGO, Sept 12, 1898

To the Editor —The forthcoming meeting of this Association is an international one, inasmuch as it will convene at Ottawa, Canada, Sept 27 next, and as such promises to be of much interest, because representatives, not only from the United States, but from Mexico and Canada will be present

As this Association has been known in the past for its marked energy in successfully promulgating Municipal, State, National and International sanitary matters, its influence in disseminating the practical application of public hygiene, not only to the medical profession of the countr
the public generally will be wide It ap
that at this particular time our professi
represented at this international meeting

well known that all the wisdom of sanitary science is not contained in a few hundred of the members of this or any other large body, but there are other important reasons why this meeting should be a representative one in numbers, namely among the special committees provided for in its constitution, is the Committee of Public Health Legislation, and it is expected that this committee will submit a comprehensive report, on the merits of which a full discussion should be participated in by medical men

The convening of Congress at Washington, next winter, will be awaited with renewed interest, as many important topics of a judicial and commercial nature will be introduced, of which none are more important than public health matters With the strong endorsement of the AMERICAN MEDICAL ASSOCIATION, the American Public Health Association, and scores of other scientific societies throughout the United States, our profession should *demand* of Congress that our petition looking toward a Department of Health be granted—a department that will be an ideal one from which any country throughout the universe might model

As the medical profession and citizens of the beautiful and picturesque capital city of the Dominion of Canada have invited this Association and its friends to be their guests at this meeting, it is hoped that a large representation of our profession can attend Several entertainments have been provided for Those of us who have shared their hospitality on similar occasions know the social functions extended to us, and their unbounded hospitality is proverbial For this occasion complimentary excursions, luncheons, etc , have been announced on the program, and the ladies who will grace the gathering will be provided for in a charming manner

The usual rate of a *fare and a third* has been granted by the railroads tickets issued on the certificate plan It is proposed to leave Chicago on Sunday, September 25, at 3 15 P M , via the Wabash and C P R The magnificent sleepers of the Canadian Pacific will run through from Chicago to Ottawa without change It is expected that the Mexican delegates will go this way, thus accompanying those who pass through and depart from Chicago The train leaving Chicago at 3 15 P M , is due to arrive at Detroit at 10 45 P M on Sunday, when we will be joined by other members of the Association, who will accompany us the remainder of our journey Leaving Detroit at 11 35 P M , we are due at Toronto on Monday morning the 26th, and at Ottawa at 5 P M the same day

Believing that this international meeting will be an unusually profitable one, scientifically, and that a large attendance is particularly desirable, is why the writer has invoked space in our JOURNAL for this communication

Very sincerely yours,
LISTON H MONTGOMERY

PUBLIC HEALTH

Society for the "Repression' of Tuberculosis —A well attended meeting of prominent members of the profession took place recently, by invitation, at the house of Sir William Broadbent The meeting had been called to consider the advisability of inaugurating a movement to disseminate knowledge concerning tuberculosis and its prevention, and also the provision of sanatoria for the open air treatment of tuberculous lung disease Sir William Broadbent was in the chair, and he briefly stated the objects in view He read a letter from the President of the Royal College of Physicians of London, expressing approval of the project and suggesting lines of work Dr Corfield, Mr Malcolm Morris, Mr Shirley Murphy, Dr Isambard Owen, Dr J Pollock, Dr Ransome, Dr H Weber and others spoke, and resolutions were passed 1, expressing the desirability of forming a public association for the purpose stated, and 2, appointing a provisional committee to take the necessary steps to start such an association We heartily sympathize with any action which may be taken to diminish the amount of tuberculous disease, and consider that if, as no doubt will be case, the methods of effecting this are pursued with wisdom and discretion, much good will be done The facts, as stated by Dr Ransome, that under existing sanitary legislation the death rate from such disease has been reduced by two thirds, and, as Mr Shirley Murphy pointed out, that vast improvements have taken place in London habitations during the past twenty years, go far to encourage the hope that yet greater benefits will accrue when the community realize fully the preventable nature of tuberculosis and the value of pure air and food —London *Lancet*

Phosphorus Poisoning in France —The prevalence of this formerly serious evil has been much reduced since the French government assumed the monopoly of match manufacture, and framed rules that must be read aloud to the work people at the factories, at least once every month Among these rules, according to the London *Lancet* for August 6, is one that enjoins that no food or drink shall be allowed in the work shop, but must be left in the dining room, that before meals the working clothes must be left in the cloak room, and the work people must wash their hands with soft soap and water, and must gargle their mouths with a gargle specially provided for that purpose Then only are they allowed to eat The same precautions are taken on their leaving the works Further, it is enacted that no one shall be employed under sixteen years of age, and that they must first be examined by the medical man, who must certify that they are free from bodily infirmity and contagious disease, that they have been vaccinated or have had smallpox, and that the state of the teeth is good As a result of these precautions among the 575 men and women employed at the Pantin and Aubervilliers works there has not been a single case of phosphorus poisoning during the year 1897 A reduction in the severer cases has been chiefly due to raising the age of admission, to medical examination, subsequent close supervision, repeated dental examination, the personal cleanliness of the workers, and immediate suspension on first symptoms of illness, with allowance of two thirds of the salary while the employé is away from the works The French government is doing all in its power to discover better methods of manufacture Chemists and inventors are paid out of the public purse to study the matter, and the result is, that a match which will strike anywhere and yet which is free from phosphorus has been invented, though it has not yet become a commercial article

Milk Supervision by Municipal Sanitary Boards —Dr W H Hatch has reported in the *Journal of Comparative Medicine*, some of the good results of local milk work in the city of Buffalo, N Y

In the absence of State supervision it would seem pertinent to here refer to the system adopted by the Health Commissioner of Buffalo, with the view of mitigating, if possible, the contamination mentioned By his direction a record of the various dairies supplying the city is kept This includes inquiry 1, as to the herds, their health, and whether they are subjected to veterinary examination and tuberculin test, 2, the methods of cleaning utensils, the process and time given for cooling the milk, hour of shipment, and distance hauled, 3, quality and source of the water supply, 4, physical condition of the employes, etc , 5, educational efforts in the way of causing the dissemination of literature bearing upon the interest of the dairyman and his care of the milk

Following this, where conditions at the dairy are deleterious or where circumstances arise of a character deemed prejudicial to the public health, instant investigation by the health department is made, and the dairyman required to correct, without delay, such conditions as may be at fault Failing to do which, or even prior to notification, if urgency and facts demand it, the product of such dairy is interdicted at the city line, the milk house in the city to which the milk is consigned being at the same time notified and prohibited from receiving the milk, under penalty of the revocation of license Under this system, the only one available under the circumstances, it is believed that decided sanitary improvement has been made in the dairies supplying Buffalo, the ratio of infection diminished, and a corresponding influence made upon the public health Many dealers keep milk only as a convenience to their customers Their facilities for proper storing and handling are insufficient—in fact, nothing This traffic in milk is objectionable from the fact that it is only a small part of the business, and subsidiary to other interests The average store keeper has little or no information relating to milk, which, while in the store, is not only liable to absorb deleterious odors from adjacent products, from vegetables, perchance decomposing, but more seriously to contamination by micro organisms, from dust and dirt which are tracked in from the street by the feet of customers and blown about the store by the draughts This condition is always present and a danger, and is invited by the habit of leaving the milk cans uncovered Grocers and other small dealers should be and are obliged, in Buffalo, to keep posted in a conspicuous place the names and license of those from whom they obtain their milk To abolish this store peddling will be difficult, but existing conditions should be mitigated by personal instruction to the dealers and frequent inspection by those designated for that duty Adulteration of milk by water or contamination by preservatives may be considered of secondary importance to the question of sanitation Stringent ordinances relating to both are proper Concerning the former, the use of the lactometer as a method of testing has given rise to much discussion through the possibility of evasion at the hands of crafty and unscrupulous dealers State and city laws upon this feature are too liberal, placing the standing as low as it has been deemed possible for normal milk to assume under ordinary conditions Adulteration of milk by water is not a common occurrence in Buffalo, and is seldom found among representative dealers It is in the main confined to peddlers, who, having an unusual and unexpected demand, resort to the Buffalo water supply for assistance The peddling of milk in the streets as well as the distribution of milk through grocery stores and small dealers should properly be abandoned The yearly license system, with power of revocation and with heavy penalties for violating ordinances relating to the business, and with further penalty of exclusion from the trade after a certain number of offences, should be adopted The features here specified are necessitated by the fact that in all municipalities the evils they endeavor to cover and prevent have been found to exist, and through their existence contamination has occurred, and disease has been definitely assigned to to them Almost all these directions are through the direction of Health Commissioner Wende, embodied in the ordinances of the City of Buffalo, and enforced without favor They have been found efficient, and the security they have given to milk has been demonstrated by the low rate of infantile mortality through diseases known to be due to milk

Anaerobic Bacterial Purification of Sewage—In the *British Medical Journal*, Dr Boyce directs the attention of sanitarians to some early attempts at the bacterial treatment of refuse, in part as follows "The most recent advance in the treatment of sewage was subjecting it to aerobic fermentation This now seems likely to be reinforced by an anaerobic method, and one which may play a most important part in the solution of a very difficult and costly problem I should like, therefore, to direct attention to some early work upon the subject which, as far as I am aware, appears to have been overlooked In January, 1893, my father received a very interesting letter from the British Consul at Barcelona, bringing to his notice a new method for the treatment of sewage, a method which the writer stated had been published in France about the year 1883 by the Abbè Moigno The Consul stated that the system had been tried by a well known merchant of Barcelona, at first at his factory and then at his private residence, and that at the time of writing the method had been in operation for five years with perfect success The Consul had himself inspected the tank and had seen the almost colorless and odorless fluid which came away, and which was removed in casks and employed for manure purposes without causing the slightest repugnance 'By a mysterious action which reveals an entirely new principle it transforms all that it receives, both solid and liquid evacuations, in a tolerably short time, and without any addition of chemic ingredients into a homogeneous and scarcely turbid liquid, which holds everything in suspension in a state of filaments almost visible, without leaving any deposit against the sides of the soil pipe or at the bottom of the drain pipe' The apparatus is constantly discharging, and the fluid is admirable for domestic irrigation The septic tank is then accurately described and figured, and the capacity calculated for the amount of work it has to do It is in effect the perfect septic tank as now understood The Abbè discusses the theory of action of the complete decomposition of the fecal and refuse material in the airless tank, and hints that it may be due to the action of a hydrosulphate of ammonia, but he adds that this is a conjecture, and proceeds, 'May it not be discovered that the mysterious agents of the fermentation, cause of the decomposition and liquefaction of the feces are the vibrios, or rather the anaerobes of M Pasteur, which the oxygen kills, and which only employ their devouring activity when excluded from the air?' A laboratory septic tank was constructed with glass sides, so that the whole process of fermentation and liquefaction could be observed, the layer of about 5 c c, which forms upon the surface is described and the manner in which it undergoes disintegration A tap was placed on the top of the tank and over this a bladder was securely fastened, and it was found that little, if any, distention of the bladder occurred If, however, air was admitted to the tank there was a rapid development of gas bubbles and soon the bladder was distended, and therefore for the effective working of the bacterial destructor it was essential to exclude the air He points out that a certain proportion of water is requisite to prevent saturation of the fluid with the product of decomposition, and in consequence arrest of the process Chemic analysis of the fluid showed that it possessed strong fertilizing properties The Abbè conjectures that during the petrid anaerobic fermentation any pathogenic germs which might be present are destroyed, and that therefore the fluid can be turned with impunity into the sewers or used for irrigation"

BOOK NOTICES

An American Text book of Gynecology, Medical and Surgical, for Practitioners and Students By Henry T Byford, M D J M Baldy, M D, Edwin B Cragin, M D J H Etheridge, M D, William Goodell, M D, Howard Kelly, M D, Florian Krug, M D, E E Montgomery M D, William R Pryor, M D, George M Tuttle, M D Edited by J M Baldy, M D Second edition, revised illustrated Pp 718 Philadelphia W B Saunders, 1898 Price, cloth, $6 sheep or half morocco, $7 For sale by subscription

Our notice of the first edition of this work will be found in Vol xxii, p 62, Jan 13, 1894 in which we gave a favorable notice of the work In this edition we are informed by the editor that more than forty of the old illustrations have been replaced by new ones, and the mat
been altered and oted
work are practically n rec

been rewritten and more fully illustrated. The book has been revised, so that it fairly covers the changes and improvements which have been made in the art during the four years which have elapsed since the publication of the first edition. The style of the work is excellent, the publisher having spared no pains to secure the finest typographic effect. Some of the illustrations are beautiful.

A Text Book Upon Pathogenic Bacteria for Students of Medicine and Physicians. By JOSEPH MCFARLAND, Professor of Pathology in the Medico Chirurgical College. With 134 illustrations. Pp. 497. Second edition, revised and enlarged. Philadelphia: W. B. Saunders. 1898. Price, $2.50 net.

Our notice of the first edition of this work will be found in Vol. xxvi, page 688, April 4, 1896, and we regret to see that the errors in history which were pointed out in our notice have still been continued in the present edition, no correction having been made. In other respects, the volume sustains the favorable opinion we gave of it on its first appearance. In this edition new chapters have been added, dealing with the bacteriology of whooping cough, mumps, yellow fever, hog cholera-swine plague, describing bacillus aerogenes capsulatus and proteus vulgaris, and pointing out the methods of determining the value of antiseptics and germicides, and of determining the thermal death point. This makes a work fully abreast of the times, and one of the most useful of recent text books on bacteriology, so far as its practical applications are concerned.

Onzieme Congres de Chirurgie, Paris, 1897, Association Française de Chirurgie, Procès Verbaux, Mémoires et Discussions Publiés sous la direction De M. Le Dr. LUCIEN PICQUÉ, Secrétaire Général. 8vo. Pp. 960, with numerous engravings. Paris: Félix Alcan. Price 20 f.

This work comprises the transactions, papers and discussions of the Eleventh Congress of Surgery, held at Paris in October last by the Association Française de Chirurgie. The questions which were discussed at this session were, first, "Contusions of the Abdomen," and, second, "The Indications for Operation and Treatment of Cancer of the Rectum." In addition to the numerous communications and discussions which belonged to the program there were also many volunteer papers presented by the members of the congress on interesting surgical cases. An examination of the volume shows conclusively that, from the standpoint of efficient surgery, the French surgeon still keeps on as high a plane as other leading surgeons of the world.

The Twelfth Congress will be held at Paris by the Faculté de Médecine on Monday, Oct. 17, 1898, under the presidency of Prof. Le Dentu.

An American Text book of the Diseases of Children, Including Special Chapters on Essentially Surgical Subjects—Orthopedics; Diseases of the Eye, Ear, Nose and Throat; Diseases of the Skin; and on the Diet, Hygiene and General Management of Children, by American Teachers. Edited by LOUIS STARR, M.D., assisted by THOMPSON S. WESCOTT, M.D. Second edition, revised. Pp. 1244. Philadelphia: W. B. Saunders, 1898. Cloth, $7; half morocco, $8; sale by subscription only.

There are sixty eight contributors to this volume. The contents of the volume are, in general, as follows: First, an Introduction of 60 pages; next, Part I, disorders incident to birth and diseases of the newborn, 68 pages; Part II, diathetic diseases; Part III, infectious diseases; Part IV, general diseases not infectious; Part V, diseases of the blood; Part VI, diseases of the digestive organs; Part VII, diseases of the nervous system; Part VIII, diseases of the respiratory system; Part IX, diseases of the heart; Part X, diseases of the genito urinary system; Part XI, orthopedics; Part XII, diseases of the skin; Part XIII, diseases of the ear; Part XIV, diseases of the eye.

The first edition of this book was noticed in this JOURNAL in Vol. xxii, p. 641, April 28, 1894. Some new articles have been added to the present edition, some of the original papers have been amended, and a number have been rewritten. The new articles include modified milk and percentage milk mixtures and orthopedics. Those rewritten are typhoid fever, rubella, chicken pox, tuberculosis, meningitis, hydrocephalus and scurvy, while extensive revision has been made in the chapters on infant feeding, measles, diphtheria and cretinism. The volume has therefore been increased in size by about fifty pages.

The editor records with regret the decease of two of his collaborators who wrote articles in the previous volume, and which have been continued in this—Drs. Charles Warrington Earle of Chicago, and J. Lewis Smith of New York.

In most respects, the work is quite up to date, but we notice that the old weights and measures continue to be used in the formulæ, to the exclusion of the decimal system. So progressive a book should not be "behind the procession" in this respect.

A Clinical Text Book of Medical Diagnosis for Physicians and Students, Based on the Most Recent Methods of Examination. By OSWALD VIERORDT, M.D., Professor of Medicine of the University of Heidelberg. Authorized translation, with additions by Francis H. Stewart, A.M., M.D. Fourth American Edition from the Fifth German. Revised and enlarged. 194 illustrations. Pp. 603. Philadelphia: W. B. Saunders. 1898. Price, cloth, $4 net; sheep or half morocco, $5.

This favorite work needs no syndicate of professors to insure its sale at medical colleges. Although less than nine years elapsed between the date of the first edition and the date of the fifth, from which the present translation is made, the book has been kept carefully abreast of the progress of the times. The author himself has carefully revised his work four times. With the exception of the entire omission of the Roentgen ray, all the latest methods of diagnosis have been incorporated in this volume. This has been done purposely, as its distinguished author states that for purposes of internal medicine the application of the Roentgen ray is still in the beginning. It is quite possible that before another edition shall have been issued, its place in internal medicine will be more definitely fixed. In the meantime, this work remains, as before, one of the most valuable books of its class.

Transactions of the American Surgical Association. Volume xvi. Edited by DE FORREST WILLARD, A.M., M.D., Ph.D., Recorder of the Association. Pp. 319. Printed for the Association. Philadelphia, 1898. For sale by William J. Dornan.

The contents of this volume include the list of the officers, presidents, fellows and honorary fellows of the Association, the constitution and by laws, an account of the D. Hayes Agnew Memorial Wing of the University Hospital at Philadelphia, the address of welcome by Dr. Joseph Holt of New Orleans, the address of the President, and papers as follow: "Etiology and Classification of Cystitis," by N. Senn, M.D.; "The Question of Operative Interference in Recent Simple Fractures of the Patella," by Charles A. Powers, M.D.; "The Use of Animal Toxins in the Treatment of Inoperable Malignant Tumors," by George Ryerson Fowler, M.D.; "A Clinical and Histologic Study of Certain Adenocarcinomata of the Breast, with a Brief Consideration of the Supraclavicular Operation and the Results of Operations for Cancer of the Breast, from 1889 to 1898, at the Johns Hopkins Hospital," by William S. Halsted, M.D.; "An Inquiry into the Etiology of Cancer, with some Reference to the Latest Investigations of the Italian Pathologists," by Roswell Park, M.D.; "Remedial Measures in Obstruction of the Common Bile duct," by J. McFadden Gaston, M.D.; "Traumatic Rupture of Pancreas, Formation of Hemorrhagic Cyst; Operation; Pancreatic Fistula; Recovery," by H. W. Cushing, M.D.; "The Cranial Cracked-pot Sound as a Symptom of Cerebellar Tumors," by N. B. Carson, M.D.; "A Case of Appendicitis in which the Appendix became Permanently Soldered to the Bladder, like a third Ureter, Producing a Urinary Fecal Fistula," by W W Keen, M D , "A Case of Fecal Communication with the Bladder, with Resulting Calculus Following Appendicitis," by George Ryerson Fowler, M D , "Gunshot Injuries of the Spine," by T F Prewitt, M D, "Hysteria from a Surgical Standpoint," by James E Moore, M D , "Hypertrophy of the Prostate Gland, and Suggestions in Regard to its Treatment," by L C Lane, M D , "Some Cases not Operable," by David W Cheever, M D , "A Case of Apparently Hopeless Infiltration of Left Axilla and Scapula by Round celled Sarcoma, Extirpation Attempted and Abandoned, Extensive and Severe Wound Infection Followed by Disappearance of the Tumor," by Maurice H Richardson, M D

In this volume will be found a valuable paper on the etiology and classification of cystitis and a paper on fractures of the patella The surgeon who owns a complete set of the transactions of the American Surgical Association will have at his disposal one of the best exponents of American surgery that can be found in our literature, and he will have occasion to observe that the topics and discussions each year usually contain information in advance of the text books

A Text Book of Materia Medica, Therapeutics and Pharmacology —By George Frank Butler, Ph G , M D , etc Second edition, revised Pp 860 Philadelphia W B Saunders, 1898 Price, cloth, $4 net, sheep or half morocco, $5

In our first notice of this book, in Vol xxvii, p 1117, Nov 21, 1896, we expressed the opinion that it had certain features that would make it very popular—such as designating the precise orthoepy of all the names according to the Romanesque pronunciation, the use of the decimal system throughout, and having conveniently placed the genitive form after each official name These features are bound to be of use to students, and we are not surprised that the second edition was called for so quickly The work has been thoroughly revised, and, as we said before, "taken as a whole the book may fairly be considered as one of the most satisfactory of any single volume work on materia medica on the market"

Report of the Twelfth Annual Meeting of the Association of the Executive Health Officers of Ontario Paper Pp 72 Toronto Warwick Bros & Rutter 1897

This report contains the proceedings of the meeting held at Toronto, Ont , Aug 16 and 17, 1897 It is well printed on good paper, and contains much of interest to the physician

Transactions of the Medical Society of the State of New York 1898 Cloth Pp 512 Published by the Society, 1898

This volume contains proceedings of the Annual Meeting of the Society held at Albany in January of this year, with data as to delegates, permanent and honorary members, forty four papers presented at the Society, besides obituary notices of various deceased members of the Society, and a list of the officers of the Society from its organization up to the present time

Transactions of the Sixty fifth Annual Session of the Medical Society of the State of Tennessee Cloth Pp 300 Nashville Jno Rundle & Son, 1898

This volume comprises the minutes of the session held at Jackson, Tenn , April 12, 13 and 14, 1898, a list of the delegates to the American Medical Association, committees, judicial council, By laws, "Code of Ethics," and the various papers presented before the Society, with the discussions thereon

PAMPHLETS RECEIVED

Aberrant Tendinous Cords of the Heart By Henry F Lewis Chicago Reprinted from Phil Med Jour

American Climatological Association

Blood Serum as an Antiseptic and Surgical Dressing with Report of Cases By Charles Graefe Sandusky, Ohio Reprinted from Lancet Clinic

Cystic Degeneration of the Chorion Villi with Co-incident Cystic Tumor of Both Ovaries By Henry Kreutzmann, San Francisco Cal Reprinted from Am Jour of Obstet

Diseases of the Lachrymal Passages Their Causes and Management By Leartus Connor Detroit, Mich Reprinted from Jour Am Med Ass'n

Does the Present Method of Teaching by Didactic Lectures Best Qualify the Student for the Practice of his Profession By John S Marshall Chicago Reprinted from the Dental Review

Employment of Solutions of Toluidin Blue as Collyria and as a Stain for Corneal Abrasions and Ulcers Importance of Early Recognition and Treatment of Acute Inflammatory Glaucoma By C A Veasey Philadelphia Reprint

Infant Feeding By Luther S Harvey, Crescent City, Fla Annals of Gyn and Ped

Organization of the British Medical Association By Surgeon Col G J H Evatt M D Hongkong China 1898

Patency of the Stump After Salpingectomy By J Wesley Bovee Washington, D C Reprinted from Am Jour of Obstet

Prevention of Diseases now Preying upon the Medical Profession By Leartus Connor, Detroit, Mich Reprinted from Bul of the Am Acad of Med

Proper Use of Vaginal Pessaries By J Wesley Bovee, Washington D C Reprinted from Va Med Sem Mo

Some New Practical Pharmaceutico-Therapeutic Notes, and Some New Ideas in Surgical Instruments By Samuel F Brothers New York City Reprinted from Phil Med Jour

Tubo-Ovarian Hemorrhage Resembling Ruptured Ectopic Pregnancy By J Wesley Bovee, Washington, D C Reprinted from Am Gyn and Obstet Jour

TRADE PAMPHLETS

The Alpha Sanitarium, Lake Forest Ill

Announcement Chicago Eye, Ear, Nose and Thoat College, Chicago, Ill

Bromidia Iodia Battle & Co , St Louis, Mo

Guaiaquin McKesson & Roberts, New York City

SOCIETY NEWS

Idaho State Medical Society —The sixth annual meeting of the Society was held at Moscow, September 6 and 7 The following officers were elected for the ensuing year President, C W Shaff, Lewiston , vice president, E F Guyon, Montpelier , secretary, Edward E Maxey, Caldwell The next annual meeting will be held at Lewiston, Sept 5 and 6, 1899

Mississippi Valley Medical Association —The annual meeting of the Association will be held in Nashville, Tenn , October 11, 12, 13 and 14 The provisional program contains seventy five papers and the members of the Association look forward to an interesting meeting Communications concerning papers should be sent to Dr Henry E Tuley, Louisville

The Thirteenth International Congress of Medicine —This Congress will meet in Paris, France, Aug 2–8, 1900 The section of psychiatry is already organized, with a committee of twenty-five of the best known alienists of Paris and the provinces, among them Bourneville, Professor Mairet, Paul Garnier, Meuriot, Falret, Vallon and Jules Voisin Dr Magnan is president of the section, Professors Joffroy and Ballet vice presidents and Ant Ritti of the Maison Nationale of Charenton secretary The subjects selected are In mental pathology, "The Psychoses of Puberty" , in pathologic anatomy, "Idiotism" , in therapeutics, "Bed Treatment in Acute forms of Insanity and the Modifications it may Entail in the Organization of Asylums" , in legal medicine, "Fixed and Impulsive Sexual Perversions from a Medico Legal Point of View " There are to be three addresses on each subject, one by a French "rapporteur" and two by foreigners

American Academy of Railway Surgeons —From the preliminary program of the fifth annual meeting, to be held at the rooms of the Chicago Medical Society, Chicago, Oct 5, 6 and 7, 1898, we note that the executive sessions are open to Fellows only In the scientific sessions, open to all those interested, the following papers are announced "Anesthesia," R H Cowan, Radford, Va , "Traumatic Injuries of Peripheral Nerves," D S Fairchild, Clinton, Iowa , "Injuries of the Genital Organs," Milton Jay, Chicago , "The Radical Cure of Hernia," W J Mayo, Rochester, Minn , "Concealed Meningeal Hemorrhage," H Reineking, Sheboygan, Wis , "Physical Examination for Railway Surgeons," J F Pritchard, Manitowoc, Wis , "The Hygiene of Railway Injuries," G P Conn, Concord, N H , "Conservatism in Railway Surgery," H Hatch, Quincy, Ill , President's Address, "The Higher the Order of Railway Surgery the Greater the Protection to the Employe, the Passenger and the Company," R Harvey Reed, Rock Springs, Wyo , "Convenient First Dressing of Fractures with Samples," E H Trickler, Cutler, Ohio , "Surgical T[illegible] of So[illegible] ties of Disease of the Prostate and [illegible] Benninghoff, Bradford, Pa The [illegible]

Academy have promised papers A D Bevan, Chicago, Allen Staples, Dubuque, Iowa, LeRoy Dibble, Kansas City, Mo, C K Cole, Helena, Mont, George W Crile, Cleveland, Ohio R Harvey Reed, M D, President, Rock Springs, Wyo, D C Bryant, M D, Secretary, Omaha, Neb

Virginia Medical Society—The annual meeting of the Virginia Medical Society was of more than usual interest It was held August 30 and 31 and September 1, at the famous watering place, Virginia Beach This is eighteen miles southeast of Norfolk, Va, on the Atlantic coast, and is one of those rare, wide, sand floor beachs so much enjoyed on the coast The Princess Anne Hotel was the home and place of meeting, and was an ideal spot for comfort and great pleasure It was a new feature to see crowds of medical men and their families disporting themselves in the surf night and morning, filling the air with joyous shouts and displaying all the enthusiasm of youth over again It was a delightful change from the dreary reading of papers to plunge into the surf and feel the force of the Atlantic waves with all their cool freshness If medical societies could meet on ocean shores in hot weather, both the science and the pleasure would be intensified in many ways The meeting was very largely attended, thirty six papers and two addresses were down on the program, all of which was carried out most carefully The president's address, by Dr Harvie, was replete with practical advice to the young men of the profession, and the public address by Dr Jones of Roanoke was interesting The first session was devoted to papers and discussions on diphtheria and the influence of bacteria in disease, and was spirited in its scientific and free expressions of opinions Dr Bolton of Brattleboro, Vt, described the bacteria of typhoid fever and its vitality and transmissibility under different circumstances All the papers were short and clear The second session was devoted to surgical papers Dr Phelps of New York gave a clinical paper on "Hip Joint Disease," and Dr Mallet of the University of Virginia gave some very interesting results of experiments on kreatin and kreatinin At the night session, many gynecologic questions in several papers of ability were presented at some length Papers covering a great variety of topics were read at the remaining sessions, some of which were followed by able and instructive discussion The meeting closed with a very pleasant banquet at the Princess Anne The publication of the papers at an early date indicates a very healthy spirit in the Society, which, while comparatively young in organization is fully equal to many of the larger and more pretentious societies Most of the members are widely scattered over the mountain and valley towns of the State, more or less difficult of access and isolated from each other, and yet in papers and discussion they show a familiarity with medical science that would compare favorably with that shown by city societies One thing noticeable is that the Virginia doctor can always express himself clearly in public debate He may not be well informed on all matters, but what he does know he can put clearly and smoothly in offhand talks The papers at this meeting were very common sense, and clear, unpretentious discussions of the most practical side of the topic Most of the physicians were educated in their own State at the very excellent University of Virginia and the Richmond schools, and a large number have received a classic training before their degree, hence a wider culture is apparent While the cross roads doctor and the irregular exist, they are hardly noticeable The Virginia medical man ranks higher socially than in other States, and this requires general culture and participation in the affairs of the neighbor hood calling for judgment on matters outside of medicine The examining board for admission to practice in the State has a very high standard of requirements, and many persons are rejected at every session The board has manifested a very strong determination to raise the standard of the profession throughout the State The State Society is greatly indebted to Dr Edwards, the secretary, who for years has worked incessantly to gather all the physicians in the State into a popular, enthusiastic society As nearly all the physicians are general practitioners, doing all sorts of general and special practice, the annual meeting is a postgraduate school to some degree, and each paper is listened to with much interest Noted specialists find in this Society very appreciative hearers and much pleasure in reading papers before them The Princess Anne Hotel management made the visit of the Society very pleasant in every possible way, and the Old Dominion Steamship Company from New York made it very pleasant for the visitors from the North The Virginia Society has found it practicable to hold their annual meetings at some watering place in the mountains or by the seashore during the hot season, and this example could be followed with advantage by other societies This would give greater attractiveness to the meetings and bring out larger numbers of the profession

NECROLOGY

William Lindsley Mussey, M D, Miami Medical College, Cincinnati, O, 1887, died in France, September 8 He was a son of the late Dr William H Mussey, and grandson of the late Dr Harvey Lindsley of Washington, D C He was identified with the Women's Medical College of Cincinnati, as Demonstrator of Anatomy and Professor of Dermatology and Syphilography He was also an Assistant Surgeon of the Children's Hospital of Cincinnati

Charles Carter, M D of Blowing Rock, Watauga County, N C, September 9 He was graduated from the College of Physicians and Surgeons in 1861, and in October of that year became an Assistant Surgeon, U S Navy Having served as such until February, 1863, he was appointed, after an interval of a few months, Surgeon of the U S Hospital, Turner's Lane, Philadelphia

Eugene S Forman, M D, University of Buffalo, N Y, 1870, died from apoplexy, September 13, at his home in Auburn, N Y

Joseph F Kuhn, M D, Long Island College Hospital, 1887, died at his home in Brooklyn, N Y, September 12, aged 34 years He was the son of Dr Louis DeB Kuhn

George S Hanna, M D of Hedgesville, Md, September 8, aged 70 ——Abbie G Hall, M D of Champaign, Ill, September 11 ——Louis Hess, M D of Brooklyn, N Y, September 11 ——J E H Nichols, M D of New York, September 10 ——A A Sylvester, M D of Columbia, Ga, September 11, aged 64 ——E Steifel, M D of Gallion, O, September 3 ——H Scarboro, M D of Ellaville, Ga, September 8, aged 86 ——Joseph O Wilcox, M D of Dresden, N C September 8 ——Stephen D Ayers, M D of Marion, Ind, September 15 He was born at Morristown, N J in 1811 ——Francis Huebler, M D of Elysburg, Wis, September 9

MISCELLANY

Personal—Prof Nicholas Senn has resigned his position of Lieut Col U S V, to resume his practice in Chicago

R Stansbury Sutton, Major U S Vols, has resigned, and resumed practice in Pitsburgh

A C Corr, M D, of Carlinville, Ill, has been elected president of the Illinois State Board of Health, vice A Adelsberger resigned

Congenital Lacerations—Congenital lacerations in the cervix uteri have been observed by Heil in three cases of nulliparæ, showing that the usual assumption that they are invariably caused by previous child bearing is not correct—*Cbl f Gyn* 1898, 19

Civil Service Change—The Medical Examining Board of the Chicago Civil Service Commission has been abolished by the Commission on the ground of economy The retiring examiners deserve the thanks of the community for the able and efficient manner in which they have performed their duty, but there is no valid reason why the City Health Department should not be utilized in this capacity

Diagnostic Value of the Reflexes in Lesions of the Cervical Portion of the Cord—Mendelssohn of St Petersburg, asserts that all normal reflexes pass through the superior portion of the spinal cord and the inferior portion of the medulla oblongata This theory explains the abolition of the reflexes with lesions of the cervical portion of the cord, as the lesion is an obstacle to their passage —*Bull de l'Acad de Méd* , May 10

The Tibia Substituted by the Fibula—Three years ago Poirier resected the whole of the shaft of the tibia on a boy for osteomyelitis, replacing it in two steps by grafting the body of the fibula on the two tibial epiphyses Radiographs now show that the graft has finely replaced the missing tibia It has grown from 4 to 20 millimeters in diameter and also increased in length, answering its purpose so well that the lad recently won the first prize for gymnastics at his school Another demonstration of the fact that the "function creates the organ "—*Semaine Méd* , May 25

To Improve Medical Certification in France—Last year there were published reports from the civil tribunal of the Seine to the effect that the judgment of the court had been that all medical certificates must be written from the personal knowledge and not from hearsay information of the physician making the report This year the court has rendered a judgment in a case which makes it a misdemeanor for a physician to certify to a lesion which would incapacitate the injured person from any labor for a considerable length of time, when in reality the injury was slight And if, in consequence of such a false certificate, an insurance company has paid an indemnity to the third person, the physician is liable for damages if sued by the company —*N Y Med Journ*

A Long Lived English Family—Dr C J B Williams of London, in proposing the health of Mr H Perigal, the treasurer of the Royal Meteorological Society, who was entertained at dinner on attaining his 92d birthday, gave some interesting particulars of the longevity of the Perigal family It appears they have been remarkable for longevity Mr Perigal's father, who was 99¼ years of age when he died, was one of thirteen children, nine of whom attained respectively their 64th, 67th, 77th, 80th, 88th, 90th, 94th, 97th, and 100th year, the last five averaging 93 years and 100 hundred days A brother of the treasurer, Mr Frederick Perigal, now in his 85th year was present at the dinner

Removal of Fibroma of Base of Skull—In order to open up the field of operation more completely, other methods having failed to accomplish the entire extirpation of the neoplasm, Max Jordan has operated two cases by lifting a tongue shaped flap, which included the entire nose and cheek nearly to the ear, resecting the upper jaw bone In one case he opened the flap down to the center, turning each half back, in the other, he avoided the central incision and turned the whole flap back from the ear In threatening cases and recurring growths, he advises this method in spite of the resulting scar, which shows only on the cheek, and is not very disfiguring, as can be seen from the cuts accompanying this article in the *Münch Med Woch* of May 24

Tinea Tonsurans in an Adult—Tinea tonsurans in an adult is an event of great rarity At a recent meeting of the Dermatological Society of London, Dr Aldersmith presented a man, aged 23 years, who had contracted the disease from a hair brush used by a younger brother who had ringworm There was only one patch and the majority of the hairs grew healthily and firmly, but scattered here and there were numerous black dots and very short stumps, some of which were in the form of little corkscrews The skin of the patch was smooth Such a case would probably have been overlooked without a careful examination with a lens The stumps were so fragile that one could not be extracted entire They were saturated with a large spore form of fungus—trichophyton megalosporon endothrix The modified manner in which the fungus grew in this case as compared with the tinea tonsurans of children is interesting, the unfavorable nature of the soil being evident —London *Lancet*

Lupus Treated with the Roentgen Ray and Hot Air—E Schiff reports two children with lupus completely cured to date by the application of the Roentgen ray, and Lang has also had similar success with the Hollander apparatus, a coiled metal tube connected with a Bunsen burner, from which a stream of hot air at a temperature of 228 degrees C at a meter's distance was directed upon the patches The scab and blisters formed were only superficial, and the resulting cicatrization proved much smoother and more esthetic than after any other process —*Münch Med Woch*

Sanitary Precautions Against Phosphorus Poisoning—It appears that the use of white phosphorus in match making is not interdicted in England, as it is in France and elsewhere An inquiry in the House of Commons on this subject led the Home Secretary to make a statement that speaks most favorably for the results which have followed sanitation in respect to the match industry He stated that the use of white phosphorus had been found less open to objection than has been asserted, on the contrary the information in his possession is that in some important countries, such as Germany, Austria and Belgium, its use is not prohibited In England the use of white phosphorus is regulated by special rules, which have been so far successful that last year only two cases of phosphorus poisoning occurred, neither of which was fatal In these circumstances he did not think there is sufficient cause for further legislative action —*Medical News*

Tetanus Cured with Intracerebral Injections of Antitoxin First Application to Man—The failures of antitoxin in curing tetanus are ascribed by Roux to the fact that the nerve cells have more affinity for the toxin than for the antitoxin, and they therefore take it up from the blood, leaving the latter to circulate ineffectually, unable to reach and neutralize the toxin then accumulated in the nerve cells The conclusion follows that the antitoxin must be introduced directly into the nerve cells to cure or prevent their intoxication, and this has been accomplished experimentally, arresting the disease at once and holding it stationary until convalescence commences A case of severe and progressive traumatic tetanus in a boy of 16 years, has thus been treated at the fifth day, pulse 120 to 130 The skull was trephined on each side with an 8 mm fraise, the dura mater incised and the needle inserted 5 or 6 centimeters at the base of the second frontal, far enough to avoid injury to the psychomotor centers, while still near enough to suffuse them with the antitoxin The tolerance of the intracerebral tissues was perfect, confirming the experimental work on rabbits and guinea pigs The disease was definitely arrested, although there was some subdelirium, insomnia, tachycardia and oliguria, probably due to the severity of the established infection Convalescence commenced the seventh day after the operation, complete nine days later —*Presse Méd* , June 18

The Danger of Contagion from Typhoid Fever in Hospitals—At a recent meeting of the Société Médicale des Hopitaux, of Paris, Dr Troisier stated that he had observed a case of typhoid fever in a young girl who was suffering from pleurisy, and that she had been surrounded by typhoid fever patients He stated, also, that the patient in question had taken nothing but a tisane, milk and Dhuys water Dr Netter recalled having observed in the Trousseau Hospital twenty seven similar cases, twelve of which had been among the atten [illegible] service Dr Gaillard had observed a case of typ [illegible] ich t patient had contracted while in the hosp [illegible] ardi had seen a similar case of contagion in a patient suffering from myelosyringosis In this case the pulmonary symptoms had predominated, and this had led him to the supposition that the contagion had been introduced by the respiratory tract —*N Y Medical Journal*

Medical Responsibility —Two cases have recently been tried abroad which have attracted much attention Professor Seidel of Brunswick was accused by his assistants of neglect of the ordinary precautions in operating, causing the death of a patient by infection from an unhealed furuncle on his finger The authorities informed him that an investigation would be made, which so distressed him that he committed suicide His brothers then brought suit against the assistants to restore their brother's reputation Bergmann cited on the stand the varying opinions in regard to gloves as an instance of the diversity of opinions that prevail in regard to asepsis, some considering gloves a progress, others a direct menace to the patient The Seidel brothers gained their case The other case was tried in France A woman was arrested suspected of infanticide, and Dr Méloche, who examined her twice, stated that there were probable evidences of a recent delivery, but a few days later the woman was delivered in prison of a living child Released at once, she sued the physician for 1000 francs damages, which were awarded her, the court adding to the peculiar features of the case by censuring him for not having examined the woman's blood A higher court has recently exonerated Dr Méloche and condemned the woman to the costs

The Maragliano Treatment of Tuberculosis —At Rome there has been opened an institute for the gratuitous supply of this serum to the poor Its chief promotor is Dr Passarini, who, on a tour of the Italian centers of population, where tuberculosis is most frequent, had his own convictions as to the efficacy of the serum confirmed by leading practitioners in those centers, and accordingly found the time ripe for such a dispensary in Rome as would place the prophylactic and curative virtues of the preparation within the reach of the humblest He, with a staff of assistants, will undertake the consulting practice of the Institute and be responsible for the diagnosis of the cases in which the serum is specially indicated, while Dr Maragliano volunteers the gratuitous supply of the serum in whatever quantities it may be called for The initiative thus taken is a noble one, and at the inaugural proceedings the large attendance of leading consultants, teachers and practitioners, attested the due appreciation of it on the part of the profession Its extension to other Italian cities can hardly fail to follow, and with the experience thus to be obtained, Dr Maragliano anticipates a still further advance on the lines he has worthily laid Nowhere more than among his compatriots has he found severer critics, but the rise of the new dispensary may be taken as significant that opposition has passed its acute stage, and that, to use Baccelli's words, the Maragliano serum has at length vindicated "its right to citizenship" in the medical commonwealth

Alcoholic Somnambulism —Dr Francotte of Liége has published a carefully prepared paper, having special reference to the medico legal relations of the somnambulism which is met with as a result of alcoholism Somnambulism, regarded as the condition in which during loss of consciousness co ordinated actions are carried out, of which there is no recollection afterward, is met with not only in hysteria, epilepsy, and the hypnotic state, but also as a result of alcoholic indulgence The author relates the following case of a man who was arrested for disorderly conduct in a public place He could not be induced to answer questions or even to speak, and appeared to be quite demented There was no sign of intoxication, but next morning at the medical examination, he confessed that at a place far distant from that at which he had been arrested, he had imbibed a large quantity of alcohol He had completely lost recollection of what had occurred during the next forty eight hours He confessed to other excesses in alcohol, and there was marked tremor of the hands and of the tongue A sister had been the subject of mental disease The author, after citing several examples, concludes that there is a species of alcoholic somnambulism in which the patient behaves to all appearance in a normal way, but without consciousness, or at least without having any recollection of what he has done In reality, however, during such a time, certain slight peculiarities of conduct are present which may easily escape the observer The condition manifests itself only in degenerate individuals, or at least in those who have inherited some psychic weakness, and as it is one which implies the absence of responsibility, unless it is intentionally induced, it is of great medico legal importance —*Neurologisches Centralblatt*

Benefactions made by Women —It is not often that two so large bequests by women come to the knowledge of the public at about one and the same time as are those lately made by two women of New York State Two colleges and a hospital benefited by the wills of two women who have recently died Mrs Annie S Paton of the borough of Manhattan, has bequeathed $100,000 to the Princeton University and $50,000 to the Manhattan Eye and Ear Hospital, and Dr Elizabeth Bates of Port Chester, has left $125,000 for the endowment of a chair in the medical department of the University of Michigan, for instruction of the diseases of women and children In addition to her direct bequests, Mrs Paton has left $100,000 more to Princeton and $50,000 more to the hospital contingent on the death of her children, who have a life interest in the sums named Dr Bates was a graduate in 1853 from the then young and struggling Philadelphia College for Women, at the time prior to her decease, Dr Bates was one of the school's senior surviving ex students and alumnæ These gifts bespeak our attention to the generosity of women to charitable objects and to education, although it is no doubt true that the major part of the benefactions to colleges and hospitals have come from men, this fact is readily explained by that other fact that the property is held in the name of the legal head of the family If the truth were known it would be found that many gifts have been suggested by the wife, and that frequently both husband and wife have united in planning for the benefit of the object of their mutual generosity

Hospitals

The management of the South Barnabas Hospital of Minneapolis, Minn, has issued a circular soliciting donations to be applied to the hospital debt of $25,000 The authorities are making strong efforts to raise this amount on account of the availability of $50,000, left by the late Richard Martin, depending upon the liquidation of the debt

The Ensworth Hospital, St Louis, Mo, has been purchased by the Methodist Episcopal Church, which will take charge of the institution October 1

At a recent meeting of the directors of the Mount Zion Hospital Association, San Francisco, Cal, it was decided to commence the erection of a new hospital, with accommodations for fifty patients, to cost about $40,000 This institution is a charity hospital, supported by Jewish subscriptions

The formal opening of the St Margaret Memorial Hospital, Lawrenceville, Pa, has been postponed from October 1 to November 15

The Employers' Hospital Association of East St Louis, has been incorporated with capital of $100,000

The Dunning (Ill) Hospital for Consumptives will be formally opened October 8 Arrangements are being made for the entertainment of those attending the inspection of the institution

The report of St Luke's Hospital, Jacksonville, Fla, shows that 112 patients were treated in that institution during the month of August

Bids for the Crozier Home for Inebriates, to be erected in Chester, Pa , have been opened The contract was awarded for $47,480

Detroit

Wayne County Medical Society —At the regular meeting of this society, held September 15, Dr E K Bacon read a paper on the subject of "The Anatomy and Physiology of the Sympathetic Nervous System and its Bearing on Pelvic, Abdominal and Mental Trouble " The Doctor gave an elaborate and exhaustive description of the anatomy of the sympathetic nervous system and traced its bewildering intricacies throughout the entire body, showing how organs remote are connected by nerve branches, and making intelligible the phenomena of associated clinical symptoms in parts of the body widely separated and apparently unconnected He enumerated a series of cases, occurring in his own practice, of reflex and sympathetic nervous irritation and explained clearly how, for example, dyspeptic symptoms are often caused from merely pelvic lesions, or how mental symptoms may be dependent upon abdominal pathologic conditions

The society discussed the advisability of amalgamating with the Detroit Medical and Library Association This society and the Wayne County Society are the two leading medical societies in the city, and many of the members of both societies have long desired a union of the two, but many difficulties have stood in the way, the chief one being in the choice of a name After some discussion the question was tabled

Dr A H Steinbrecher reported nineteen cases of fever among returned soldiers he was treating at Harper Hospital He stated that while many of the cases resemble typhoid fever, yet they are all undoubted cases of malarial fever Widal's serum test has failed in every case while in nearly all the plasmodium has been found in the blood

Health Report for the week ending September 17 Deaths 75—under 5 years 37 , births 72—male 31, female 41 , contagious diseases, diphtheria 7, scarlet fever 10 , deaths, from diphtheria 3, scarlet fever 6 One pair of twins born One case of smallpox

Louisville

Kentucky School of Medicine —The injunction granted Drs Kelley and Woody in the local courts, enjoining Dr Wathen from claiming to be Dean of the Kentucky School of Medicine, has just been made permanent by action of the Court of Appeals, it having been argued before that court and so decided

Surgical Society —The Surgical Society held its regular monthly meeting on the 5th inst , as guest of Dr Jas S Chenoweth A number of interesting reports of cases were made, and pathologic specimens exhibited Dr Chenoweth read a paper upon "Drainage of Cavities," and exhibited an ingenious apparatus for continuous drainage, specially applicable in gall bladder surgery A number of different appliances were shown for other uses of this apparatus, the most practical of which, perhaps, was that to be used in lavage of the stomach

MacCammon —Dr Vernon MacCammon has recently been appointed acting assistant surgeon in the United States Army and been ordered to Fernandina, Fla He is a yellow fever immune, and has traveled extensively in the tropics He is a recent graduate of the Kentucky School of Medicine

Louisville Society of Physicians and Surgeons —This society was entertained on the 8th inst by Dr Eugene C Roemele He read a paper entitled "Milk Infection "

Fowler —Dr and Mrs J W Fowler celebrated their silver wedding most pleasantly on the 10th inst Dr Fowler is president of the Kentucky State Board of Pharmacy, president of the Louisville College of Pharmacy, and member of the State Pharmacy Examining Board About two hundred guests were present on this most delightful occasion, and received invitations from Dr Fowler to his golden wedding, twenty five years hence

San Francisco

San Francisco County Medical Society —Dr McCone presented a case of syphilis of the peritoneum, at the regular meeting of this Society for the month of September The history of the case was about as follows A woman presented herself at the University of California clinic, some time in May, saying that the trouble for which she sought relief had existed for the past eleven months, steadily growing more aggravated She was a prostitute, 29 years old, had two children, no miscarriages, and had been previously regular in her menstrual law She acknowledged to the initial sore of syphilis, four years previously acquired, but said that she had had no trouble that could be, in her opinion, due to that cause On examination, the abdomen was found to be very much enlarged, with the umbilicus protruding , the genitalia presented a very curious condition There was a diverticulum connecting the vagina with the rectum , the anterior wall of the vagina and the bladder were drawn upward , all the parts in the neighborhood were very much injected and edematous A sound was introduced into the uterus and easily passed to a distance of five inches The mass in the abdomen exerted a mechanical pressure upon the lungs and heart which had very much interfered with respiration and the circulation She was sent to the City and County Hospital, where a consultation was held between Drs McCone, Kerr and von Hoffman , no diagnosis was made at this time, but it was decided to operate and see what the condition in the abdomen could be Dr von Hoffman operated, with the assistance of Dr McCone When the abdominal wall was cut through, there escaped 2½ gallons of a dark brown, coffee colored, apparently non purulent fluid The intestines were found somewhat matted together, and the whole abdominal viscera covered with a thin, delicate membrane A large number of nodules were observed in different parts of the abdomen Nothing at all characteristic of any known disease could be found, and the diagnosis was not made even at this time The patient did not recover from the operation, but rapidly sank and in a few hours died Postmortem examination showed a very great number of nodular enlargements in the abdomen, scattered promiscuously about, but nothing at all definite The nodules were red and were not broken down , some of them exhibited a very clear picture of granulation tissue , one was noted about the size of a man's fist, solid and not at all broken down Specimens were taken which were subsequently cut and examined microscopically, but with no new light being thrown upon the disease It was stated by one examiner of the specimens, that the disease might have been syphilis A more careful examination of the body after death, resulted in the discovery of some of the typic syphilitic scars, with round, punctured edges and thin skin, on the inner side of both thighs A careful search of the published literature which might possibly have any bearing on the case was made, with the result that it was found to almost parallel the case reported by Lancereau in his work The similarity between the two cases being so great it was assumed that the diagnosis of the case under discussion was in all probability syphilis of the peritoneum In reply to a question Dr McCone stated that the patient had had no abnormal temperature while she had been under observation either before or after operation The pathology of the case was discussed by Dr Douglas Montgomery and by Philip King Brown, the latter holding opinion that while the disease might have been caused by, and might have been indeed syphilis of the peritoneum, there was absolutely nothing in the report of the case that would make such a diagnosis unquestionable He was also of the opinion that it would be absolutely impossible to make a diagnosis from the microscopic appearance of the specimens which had been removed, as they showed nothing except that there were nodules, in the abdomen, of granulation tissue, and that these were not broken down, as one would expect to be the case in tubercular peritonitis The presence of the sero purulent membrane rather contraindicated syphilis as the causative factor

Dr F Dudley Tait agreed with Dr Brown in his opinion that the diagnosis of syphilitic disease of the peritoneum had not been shown in the case reported, and the condition may have been something quite different He was also of the opinion that it would be absolutely impossible to diagnose syphilis by means of the microscope The case may have been one of tubercular infection, or infectious inflammation from some other cause, it might also have been due to syphilis, but this was far from having been proved to be the case Dr McNutt exhibited the kidneys of a man of about sixty who had been killed by a passing car, while jumping from the cable car on which he had been a passenger There had been no history of any disease of the kidneys and the man was considered to have been in perfect health up to the time of his death On postmortem examination the kidneys were found to measure 9 x 4 x 6 inches, and to weigh three pounds each, they were one mass of multilocular cysts, hardly any trace of true kidney tissue being discernable He read extracts from the most recent writers on the subject, the majority of whom were of the opinion that cystic disease of the kidney, of this variety, was a congenital affection which had persisted into adult years and was seldom the cause of death The specimens were exhibited and were particularly fine On motion of Dr Philip Mills Jones, the sum of $500 was voted for additions to the library

APROPOS of the discipline of the Tennessee regiment, a recent visitor to the Presidio, where the regiment is encamped, witnessed a number of the men tossing one of their officers in a blanket On inquiry it was discovered that the officer in question had done something to displease the men and they were simply adjusting the punishment to fit the crime

Two of the positions left vacant by the death of Dr J F Morse, have been filled Dr L Bozet has been appointed to the Board of Health, and Dr Fehlaisen has received the appointment as chief surgeon to the German Hospital

THE PUBLIC SERVICE

Movements of Army Medical Officers,—To duty with troops at Camp Wikoff Montauk Point L I Major Charles Adams, brigade surgeon, from Camp George H Thomas Ga Major Royce D Fry, brigade surgeon from the general hospital Ft McPherson Ga Major Eugene L Swift brigade surgeon from camp at Lithia Springs Ga, Majors Henry I Raymond and Adrian S Polhemus brigade surgeons from the 3d Corps at Chickamauga Park, Ga Major Chas M Gandy brigade surgeon from Tampa Fla and the following Acting Asst-Surgeons Herbert I Harris from Buffalo N Y Edward M Parker from Washington D C Thomas H Lowe from Baltimore Md Raphael A Edmonston from Washington D C Delos L Parker from Detroit Mich, James McV Mackall from New Haven Conn Elijah J Russell from Baltimore Md Charles A Hamilton and Wm O Cutliffe from Washington, D C Orrin S Mills from Gallipolis, Ohio, Frederick W R Lapsley from Chicago, Ill, John A Tanner and Henry B Lee from New York City, George Dock from Ann Arbor, Mich W T Hamilton and Stephen M Long from Washington, D C Charles H Fischer from Detroit Mich, and James S Kennedy from sick leave at Chambersburg Pa

To duty with troops at Camp Meade, Pa Major Frank Bruso brigade surgeon, from the 3d Corps at Chickamauga Park and acting Asst Surgeon Donald Maclean from Detroit Mich

To duty with troops at Lexington Ky Acting asst Surgeons Matthew Leepere from Milan Mo Henry J Hinkel from Baltimore Md Philip P Parrish from Afton, Va William J Boyd from Pavilion, N Y, and James B Stewart from Bradford, Pa

To duty with troops in Chickamauga Park, Ga Acting Asst Surgeons Howard Carey from Sand Beach Mich Erwin I Shores from Bridgewater, Mass, William T Tanner from Buffalo N Y F Arthur Zeller from St Paris, Ohio Charles S Pinckney from Charleston S C, Alfred O Stimpson from Thompson, Pa, and Josiah B Trudgian from Washington, D C

To the Sternberg hospital in Chickamauga Park, Ga First Lieut Jesse Roux, Asst Surgeon 1st Illinois Cavalry, and acting Asst Surgeon George Dock from duty at Montauk Point L I

To duty with troops at Camp Poland Knoxville, Tenn Acting Asst Surgeons Thomas W Jackson from Philadelphia, Pa, and Thomas H Kearney from Washington D C

To duty with the 7th Army Corps at Jacksonville, Fla Major Peter D MacNaughton, brigade surgeon, from duty at Montauk Point Major A H Appel Surgeon U S A from Fernandina Fla Majors Geo A Smith, Bial T Bradbury and Milo B Ward brigade surgeons, from duty with the 3d Corps at Chickamauga, Ga, Majors Simon P Kramer and John G Davis, brigade surgeons from duty at Camp Wikoff, and the following acting Asst Surgeons H A Eberle from Canton, Ohio George A Thompson from Phenix Ind, Samuel S Rodman from Frankfort Ky, Donald P McCord from St Louis Mo Eugene W Davis from Saginaw Mich, John Gilbert from Philadelphia, Pa, Murray F Mudge from Gaines, N Y, Daniel C Cooney from Washington, D C, Thomas W Bath from Normal, Ill, Melchor G Cockey from Belvue, Kan, Raphael Echeverria from Washington, D C and Charles V Buttler Charles G Eicher Francis R Percival, Frank W Ross and John T H Slayter from duty at Camp Alger, Va

To duty with troops at Huntsville, Ala Acting Asst Surgeon P S Field from Baltimore, Md

To duty at the general hospital, Ft McPherson, Ga Lieut Marshall M Cloud Asst Surgeon U S A from sick leave at Atlanta, Ga

To the charge of sick in hospitals of Philadelphia Pa Major David C Peyton brigade surgeon, from Camp Meade, Pa

To duty at the Josiah Simpson hospital Ft Monroe, Va Major James M Jenne, chief surgeon of volunteers from the 3d Corps at Chickamauga Park Ga First Lieut Leigh A Fuller Asst -Surgeon U S A from New York City, and the following acting Asst Surgeons F A Hudson, Lewis M Walker and B F Wooding from Denver, Colo Ernest W Ewell from Lancaster N Y, George A Curriden from Chambersburg Pa, Walter S Chapman from San Carlos, Ariz Frederick W Fabricius from New York City and John R Devereux from duty at the Leiter hospital, Chickamauga Park, Ga

To duty with the U S Commission on the evacuation of Cuba Acting Asst Surgeon W T Laing, from duty at Camp Wikoff

To duty at Santiago Cuba, via New York City Acting Asst Surgeons J D Dabney from Birmingham, Ala J M Eindsley from Camp Wikoff L I and L B Bluitt from Quincy, Ill

To duty at Ponce, Porto Rico Major W C Gorgas Surgeon U S A from Santiago Cuba, and the following acting Asst Surgeons John W Thomas from Camp Wikoff, L I E Harold Williams from Hamilton Ga, William R S George from Houston Texas, and Ferdinand H Scholle and Martin M Dolan from Baltimore, Md

Honorably discharged Thos C Kimball and Edward Boeckmann, chief surgeons of volunteers Majors R Stansbury Sutton and Geo T Vaughan, brigade surgeons and Major Andrew P Biddle, Surgeon 31st Michigan Infantry

Resigned Major Sprague Winchester, Surgeon 5th U S Vol Infantry, Major Geo G Ward, Jr, Surgeon 12th New York Inf Major Henry Wallace Surgeon 47th New York Inf Lieut Jos B Whiting Jr, Asst Surgeon 1st Wisconsin Inf, Lieut J B L Hommedieu Asst Surgeon 9th New York Inf, and Lieut F R Newberry, Asst Surgeon 5th Missouri Inf

CHANGE OF ADDRESS

Bell H A from Butler Pa to Phoenix Ariz
Buckmaster, S B, from Lake Geneva to Janesville Wis
Carroll, T W from Galveston to St Paul's Sanitarium, Dallas, Texas
Campbell F F from Fairfax to Blunt S D
Chapman W S, from San Carlos Ariz Ter to Ft Monroe, Va
Clough, J A, from Spring Valley to 306 S Barstow Eau Claire Wis
Dicken H W from Petoskey to Cross Village Mich
Drayton, H S, from 27 E 21st Street to 12 E 17th Street New York, N Y
Drake G W from Monteagle Tenn, to Hallms Va
Follansbee, E A, from 533 S Broadway to Laughlin Building Los Angeles, Cal
Gray, A from 456 Ogden Avenue to 125 Flournoy, Chicago Ill
Jenkins M J, from Indianapolis to Valley Mills Ind
Kaszynski J, from 151 W Blackhawk to 700 Milwaukee Ave Chicago
LeCqunt E R, from 1413 W Madison Street to 120 Warren Avenue, Chicago, Ill
Luster J C, from St James to Rolla Mo
McDougall G, T, from Osseo to 583 11th Street Milwaukee, Wis
McMahon D B from Omaha to Newman Grove Neb
Moir, C from 201 Shipp Avenue to 2403 3d Street Louisville, Ky
Peavey, J L from Denver to Colorado Springs Colo
Roop, J W, from Portland to Montrose, Ark
Shoemaker, S A from Eureka Springs Ark to Reiffsburg Ind
Sutton R Stansbury from duty with army to 170 Ridge Street Pittsburg Pa
Wedding, S J from Sulphur Springs to Hartford, Ky

LETTERS RECEIVED

Adams C B, Vanceburg Ky, Ard, F C, Plainfield, N J, Atkinson, W B, Philadelphia, Pa

Bowen D R Wellsburg N Y Bruner William E, Cleveland Ohio Burnham, A A Chicago Ill

Callahan, I R, Cincinnati, Ohio Carveth, Florence Port Hope Ont

Darling C G, Ann Arbor, Mich, Derge & Co A R, Salt Lake City, Utah, Doerner J Buffalo, N Y

Egan J A, (2) Springfield, Ill Elgin Milkine Co (2) Elgin Ill

Fischer Louis New York, N Y Forum Publishing Co, New York

Grigg, T A, Butte Mont Guthrie, E C, Aspen Colo

Hughes, Don C Findlay, Ohio, Hummel Adv Agency A L, New York

Johnson F S, Odebolt, Iowa Jones S C Crane Nest, Ky,

Kiernan J G Chicago, Ill Kress & Owens New York N Y

Martin Franklin H, Chicago Ill Mathews, J M, Louisville Ky Montgomery, L H, Chicago Ill Morrison W T, Bay Port Mich Moulton H, Fort Smith Ark, McElfresh C H St Louis Mo Mulford Company H K, Philadelphia Pa

Nelson L, Hillsboro Ohio

Patterson, Jas, A Salem N J Prioleau, W H, Summerville S C

Rand F T New York, N Y Reed C A L, Cincinnati, Ohio, Rice, W G Muncie Ind Robinson Byron, Chicago, Ill

Sampson, F E, Creston, Iowa Sanitarium The Battle Creek, Mich Savage G C Nashville Tenn Smith E J Harlan Iowa Smith, J R, Philadelphia Pa, Stafford, M, Ansten W Va

Tasche J C, Franklin, Wis

Watts C W Moberly Mo Weeks Drug and Chemical Co, Jackson Mich Wells, W A, Washington, D C

The Journal of the
American Medical Association

VOL XXXI	CHICAGO, ILLINOIS, OCTOBER 1, 1898	No 14

ORIGINAL ARTICLES

IMMUNITY THE FUNDAMENTAL PRINCIPLE UNDERLYING ALL TREATMENT OF TUBERCULOSIS

Presented to the Section on Materia Medica Pharmacy and Therapeutics, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June, 7 10 1898

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The principles underlying the treatment of disease have in the past been matters of speculation only What was known to do good had been found to do so empirically, and was handed down from one generation to another in the most dogmatic way With the birth of the germ theory of disease speculation gave way to exact science, and it became possible to base plans of treatment upon rational theories In the light of the germ theory of disease, immunity becomes *the fundamental principle underlying all treatment* of those diseases which are due to living organisms The usefulness of a plan of treatment must therefore be predicated upon what it will contribute toward maintaining or bringing about immunity

Certain axioms can be formulated out of our present clinical and laboratory knowledge of germ diseases These are 1 That all germ diseases are due to parasitic life of living organisms 2 That there is in all living organisms an inherent power of protection against parasitic life 3 That the power inherent in the human organism protective against disease is potent in direct ratio with normal physical development and normal standard of health 4 That a proper soil for a given disease germ must exist in a prospective host as a pre-requisite for the establishment of the disease 5 That the soil necessary for the subsistence and development of any given disease germ in a host may become exhausted 6 That the normal physical development and normal standard of health with the consequent relative resisting power to disease, are closely related to nutrition in the individual, and in the ancestry from which the individual has sprung 7 That congenial soil for a disease and inherent resisting power to it, may both exist in their fullest intensity in the same individual at the same time

Of no germ disease have we, probably, as exact and intimate a knowledge as of tuberculosis We can therefore lay down the following additional axioms about it as a basis of treatment 1 That tuberculosis is essentially a local disease, and as such is slow in exhausting the soil in the host in whom it colonizes 2 That tuberculosis, as a disease in its complete symptom-complex, is a series of colonizations, each colonization, in the complete cycle of its existence, constituting a minor attack 3 That each colonization which runs its course, leaves the system of the host less competent to battle against a subsequent attack 4 That every successive colonization is more extensive and more devastating than the preceding one 5 That when a colony has been established, cure can only take place either through phagocytic powers of the blood by destruction of the bacilli before the circulation has been cut off from the deposit, or through defensive powers of the system by necrosis and ejectment of the mature bacilli, or by encapsulation 6 That during the process of necrosis and ejectment of the mature bacilli re-inoculation may take place

Upon the general and special axioms here laid down, the scientific treatment of tuberculosis must be based, and the fundamental principle that grows out of them is that immunity must constitute the basis of all treatment

Immunity to disease is a freedom from liability to disease, because of an innate or acquired condition of the system, which is inimical to the development of the disease In other words, *it is an uncongenial soil* for the germs which produce the disease For the proper understanding of what is meant by immunity, it is first necessary to get a clear conception of what constitutes soil Soil is a complex condition having both a positive and negative qualification It may be a condition of the system in which disease germs find something in the blood or tissues upon which they can luxuriantly feed and prosper, or it may be a condition of the system, in which there is lacking something in the blood or tissues, which if it were present the germs could not obtain a foothold Immunity being conditioned upon soil is therefore of a two-fold nature 1, natural immunity, and 2, artificial immunity Natural immunity is that condition of the system in which there is something present in the blood or tissues which inhibits the colonization of disease germs, in other words, it is the innate resisting power to disease Artificial immunity is that condition of the system in which the specific pabulum for the disease germs has been taken out of the blood or tissues, either by a prolonged resistance to implantation of the germs, or by a successful struggle through an actual colonization of them Immunity is not a fixed absolute condition, but varies from a slight temporary resisting power to an absolute permanent impediment to disease

While tuberculosis subscribes to the general laws which govern germ diseases, it differs somewhat from most germ diseases in the matter of immunity With such diseases as smallpox, scarlet fever and measles, natural immunity is weak, and a single attack of the disease is likely to establish absolute and permanent artificial immunity with tuberculosis natural immunity is strong, but artificial immunity is exceedingly difficult to establish Natural [illegible] fr[illegible] tuberculosis is, however, not [illegible] and peoples, nor even by all f[illegible] not been exposed to the disease, such as the colored race in the interior of Africa at the present day, and the native races of America before its settlement by Europeans, do not possess it at all, country people possess it in lesser degree than city people, and some families are absolutely devoid of it This difference may be explicable upon the theory that strong natural immunity really may be artificial immunity gradually acquired through long exposure to the disease by races, peoples or special families As a rule natural immunity from tuberculosis goes hand in hand with normal physical development and a normal condition of health, and this is true to a much greater degree of tuberculosis than of most germ diseases Complete artificial immunity is very seldom attained, although a very high degree of artificial immunity may be reached by certain families Artificial immunity in the individual is sometimes acquired in bone tuberculosis and possibly also in glandular tuberculosis The reason why complete artificial immunity is so seldom attained is, because when the disease is once established, the natural immunity or resisting power of the person affected gradually gives way and becomes exhausted before artificial immunity can be established That there is, however, a tendency in every case of tuberculosis toward the establishment of artificial immunity can not be doubted, for we have evidence of it not only in the gradually increasing chronicity of the disease, but in the degeneracy of the tubercle bacilli as the disease advances Could the natural immunity of the individual be maintained at a normal standard, a very large number of cases would undoubtedly recover as artificial immunity would ultimately be acquired and the germs would no longer find congenial soil for the establishment of new colonies There are really very few cases of tuberculosis in which recovery does not take place from the first attack and in many cases complete restoration to health follows a second, a third, and even a fourth attack, but unfortunately after each attack there is lower physical tone—a lower natural immunity, and recovery is slower and less complete, with the chances of ultimate permanent recovery greatly diminished

In the treatment of tuberculosis the great and important object should be the maintenance of natural immunity and the establishment of artificial immunity Everything possible should be done to maintain the normal standard of health, first by preventing the waste of force, and secondly by stimulating the organs which have to do with nutrition To prevent the waste of force it is necessary to suspend all activity over and above that which is necessary for a normal circulation and the proper action of the emunctuaries Over-work among the poor, and over exercise among the well-to-do are serious impediments to recovery There is a popular idea, shared by too many physicians, that tuberculosis is due to inactivity of the lungs, and that the natural remedy is a great deal of out-door exercise The mischief caused by this erroneous idea is beyond calculation As well might one expect a typhoid fever patient to recover under a régime of hard labor, as a person suffering from tuberculosis while pursuing an active career Absolute rest is the proper treatment in all cases of tuberculosis so long as there is marked variation of temperature and excitability of circulation Not only will the resisting powers of the patient be conserved by such treatment, but the nutritive powers of the system will be greatly increased Loss of weight will cease, appetite will improve, digestion will grow better and the general condition of the patient will show marked improvement after a few weeks' rest in bed When the acute symptoms have subsided and the circulation approaches a normal condition, passive exercise may be taken with benefit Watchfulness should, however, be maintained, so that even passive exercise may be suspended the moment evidence of disturbed circulation reappears Not until the circulation becomes normal, and all evidence of activity of the disease has disappeared, should fatiguing exercise be permitted There is no rule of practice of greater importance to the welfare of the patient than this, for a single fatigue may be the turning point in the case from the road to recovery to the road to fatality

By advocating rest and partial inactivity during the convalescent stage I do not wish to be understood to favor indoor life or to oppose open-air treatment On the contrary, I deem it of the greatest importance that even in the most acute stage pure, fresh air be supplied to the patient night and day, and that the whole mode of life be regulated with this end in view There is nothing inconsistent, however, between the ideas of absolute rest and plenty of fresh air, for such rest can be secured even in the open air if necessary, and can always be had in well-ventilated rooms Sleeping-rooms should be kept well ventilated night and day and where they can not be properly heated the patient should be sufficiently protected by clothing to permit of thorough flushings at frequent intervals The ideal treatment for tuberculous subjects is really only attainable in sanatoria where everything can be so planned that patients may spend most of their time out of doors even in the acute stage of the disease, where the sleeping-rooms can be well ventilated, and where the physical exercise can be regulated to suit the requirements of each case In home treatment we must do the best we can, but with the two ideas of rest and plenty of air always in mind and as the basis of every plan of treatment and every act of life

Next in importance to preventing the waste of force, is stimulating the nutrition so as to make up for the ravages of the disease Tuberculosis being a parasitic disease, and one which usually attacks some important part of the machinery of the body concerned in nutrition, there is bound to be a loss in nutrition and a deterioration from the normal standard of health In proportion as this loss can be repaired will treatment of the disease be successful In this connection the close relationship and interdependence of the respiratory and digestive tracts in the function of nutrition and their common government by the pneumogastric nerve must be ever kept in mind As this nerve supplies both the lungs and the stomach, an embarrassment to the lungs is bound to prove an embarrassment to the stomach In treating tuberculosis of the lungs the most constant attention should therefore be given to the stomach, and every weakness and incapacity anticipated By reason of nervous inhibition and perverted nervous function growing out of the diseased condition of the lungs, appetite is often wanting, or a morbid craving for food, which, if taken, will prove injurious, exists Want of appetite and morbid cravings of food must therefore not be heeded, but a liberal and judicious feeding must be pursued An ample supply of easily digested food at frequent intervals will probably give the best results The largest amount of nutrition with the smallest amount of labor to the digestive tract should be the golden maxim by which every article of diet is judged Artificial aids to digestion, both in the stomach and in the intestines, can always be employed with advantage Great care should be exercised in giving drugs, such as alteratives and cough medicines, by the stomach, for the purpose of influencing the course of the disease The good that may be accomplished with such drugs is more than counterbalanced by the impediment to nutrition which they bring about and the consequent deterioration in natural immunity There are many drugs, such as strychnia, alcohol, cod-liver oil, hypophosphites, mercury, the mineral acids and the vegetable tonics, which may be used to advantage for maintaining natural immunity They should, however, all be used with care and only when indicated for a specific purpose Animal and vegetable ferments, such as pepsin, pancreatin and diastase are likewise most useful remedies for this purpose when judiciously used

In the matter of artificial immunity we seem to be at the dawn of a great day Much can already be accomplished with the methods and remedies at our command, but what we can do now is merely a foreshadowing of what is to come In the past, climate has been our chief resource as a means for the attainment of artificial immunity With a better knowledge of tuberculosis and more careful observations of the results of treatment, a change seems to be coming over medical opinion as to the value of climate as a therapeutic agent Personally I have long since abandoned the idea that there is any specific power in climate over tuberculosis That climate may contribute something to the maintenance of natural immunity I have no doubt, but as between the advantages to be derived from the best climate and those which accrue to the average patient in comfort and nutrition at home I believe the preponderance to be on the side of home Whatever advantage there may be in climate will only be attainable to the majority of persons suffering from tuberculosis when sanatoria have been established in appropriate places to which patients can either be admitted free or upon payment of nominal board

There has been much disappointment in the serum treatments They one and all aim to establish artificial immunity and thus to bring about a cure Personally I have had no experience with any of them and I am therefore not in a position to speak of them with authority I have, however, read all the literature upon the subject within my reach and have kept close watch upon reports of cases treated with animal immunizing agents of any kind I believe that all contain some merit, and in the hands of the proper persons are legitimate therapeutic agents I have not used them because of lack of intimate knowledge of them, and also in part because of diffidence inspired by conflicting reports about them That their genesis is upon correct principles, however, I am thoroughly convinced, and I look forward with great anticipation to the discovery of a specific remedy along the lines upon which they have been worked out

Of drugs that have the power of contributing to the establishment of artificial immunity we have at least two that are worthy of confidence These are iodin and creosote In my opinion iodin approaches nearest being a specific for tuberculosis of all agents now known That it is an absolute specific where it can be properly applied I am certain, but the great difficulty lies in the application I have for many years obtained the most decided results by daily inunctions with a solution of iodoform or europhen in oil The virtue of these drugs lies undoubtedly in the iodin, and the mode of action appears to be the production of nascent iodin in the blood by the decomposition of the iodoform and europhen, and a consequent inhibition of the tubercular process The treatment is successful in proportion to the incipiency of the disease and the integrity of the circulation throughout the deposit Of incipient cases that I have treated nearly all have recovered, and of advanced cases many have shown remarkable improvement and some have recovered The reason why incipient cases recover so much more readily than advanced cases is because after necrosis has begun in a tubercular deposit medication through the blood is no longer possible, and the only hope of recovery lies in the prevention of new deposits And here the importance of artificial immunity as a factor in the treatment of tuberculosis becomes evident In proportion as artificial immunity can be attained the chances of reinoculation grow less, and if absolute immunity can be established recovery is assured Iodin might possibly give this absolute immunity could a method be devised of keeping the blood thoroughly under its influence until all danger of reinoculation has passed

Creosote is undoubtedly also a most valuable immunizing agent in the treatment of tuberculosis, and stands a close second to iodin It must however, be used in very large doses to get the full effects of which it is capable A dosage of fifty drops of pure beechwood creosote three or four times a day ought to be reached This amount can easily be given if the dose is gradually increased and copious liquid vehicles, which in themselves are not prejudicial to the stomach, be used Hot water is probably the best vehicle in which it can be given, but milk is sometimes preferable When milk is used the drug should be given after meals, so as not to interfere with the appetite Wine, alcoholic beverages, and oils are objectionable vehicles, because they may prove embarrassing to the nutritive process and can not well be taken in large enough quantities to properly dilute the creosote With the special preparation of creosote I have very little experience

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LIFE HISTORY OF BACILLUS TUBERCULOSIS IN ITS RELATIONS TO THE TREATMENT BY TUBERCULIN

Presented to the Section on Materia Medica Pharmacy and Therapeutics
at the Forty ninth Annual Meeting of the American Medical
Association held at Denver, Colo, July 7-10 1898

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It is said by Hirsch that about one seventh of the mortality that exists among civilized men is due to tuberculosis in its various forms, and when we consider the dreadful mortality due to this group of diseases, there is rather a remarkable fact that confronts us in studying the life history of the tubercle bacillus, namely, that it is apparently, when compared with many other species of bacilli and bacteria, very much less virulent and deadly

Let us compare for a moment the tubercle bacillus with the Klebs-Loeffler bacillus of diphtheria The tubercle bacillus, it is true, can be inoculated on m and cut surfaces, but only with great difficulty and under exceptionally favorable conditions which aid in its development Even when it does develop under favorable conditions of soil and habitat, its powers of growth and multiplication are slow and feeble, when compared with many other pathogenic micro organisms Compare this tardy process with the furious onset and virulence of the Krebs-Loeffler bacillus in a case of malignant diphtheria, the ghastly rigor followed by the burning fever and the septic infection produced by the absorption into the system of the poisonous toxins elaborated by these bacilli As the case of diphtheria goes on the glands of the throat become swollen and often purple in color, showing the still greater contamination of the tissues, and as death approaches the blood loses its coagulability and in fact resembles greatly the disorganized blood found in the veins after death from snake bite Tuberculosis, on the other hand, is comparatively slow and insidious in its progress There is also a marked difference to be observed in the organs attacked by tuberculosis in children, as compared with the same disease in adults In the former, tuberculosis commences usually in the glandular system, and the caseous glands may infect the adjoining organs, lungs, etc , by direct infection, or may set up a condition of general miliary tuberculosis In adults, on the other hand, in an enormous preponderance of cases the disease tends to localize itself in the lungs, and the digestive system and the glands are much less frequently involved The infection caused by the bacillus tuberculosis in adults is, there can be no doubt, produced by these micro organisms lodging in the nasal cavities, pharynx, trachea or lungs In children the infection is more general and very often seems to enter by the intestinal tract

The comparatively slow development of tuberculosis is of great utility to the physician and enables him to adopt measures of prevention that in many other diseases would be quite ineffectual It is a proposition that scarcely admits of argument, that when the tendency to tuberculosis is hereditary, and more especially when it prevails among the relatives of both parties desiring to marry, such unions should, as far as it is possible to do so, be prevented, unfortunately, however, the advice of the physician is often never asked, and if asked is still oftener disregarded While it sometimes occurs that women who are suffering from pulmonary and other forms of tuberculosis do bring forth and suckle children who are apparently healthy, yet the best authorities condemn the practice, as likely to be dangerous to both mother and child In these cases it is advisable to at once secure the services of a healthy wet nurse If the pecuniary circumstances of the parents render this impracticable, then the infant should at once be placed upon the use of sterilized cow's milk, properly diluted and slightly sweetened If the quantity of casein in the cow's milk causes indigestion, the excess can be removed by coagulating with pepsin or pancreatin and filtering through a piece of lace net In regard to the various kinds of infant foods so largely used in this and other countries, in my opinion they are utter abominations, and their use is responsible for the deaths of thousands of children annually Mother's milk is the perfect type of food for young infants, therefore all our efforts should be directed, in feeding these children who can not obtain their natural nourishment, to giving them as close an imitation as possible The basis of all the so called "infants' foods" is starch, which is not found in mother's milk, and requires for its proper digestion an action and such an activity of the digestive function of the small intestines as is not often to be found in young infants

As has been before mentioned, the infection of tuberculosis in infants and young children, more often take place through the glandular system of the intestines than through the mucous surface covering the respiratory apparatus This fact emphasizes the importance of most carefully scrutinizing the milk supply and the cattle whence the milk is procured, in order that no tubercular infection may be incurred from that source I am inclined to look also with considerable mistrust on the common practice of feeding young infants with scraped raw beef, believing it to be possible thereby to infect young children with tuberculosis, not to mention the possibility of other parasitic diseases, as for example, trichinosis As the infant grows and develops into the child new sources of infection for the development of tuberculosis are found to exist in the glands, so abundantly to be found on the surface of the respiratory mucous membranes

The crypts and follicles of enlarged tonsils form a nidus and resting-place for the retention and development of tubercle bacilli, the same may be said of adenoid growths in the vault of the pharynx, and of a catarrhal condition of the mucous membranes of the throat or nasal passages, whether produced by the above mentioned or other causes This chronically inflamed condition of these mucous membranes (commonly called catarrh) I believe to be a powerful predisposing cause of pulmonary consumption Another reason why enlarged tonsils and other growths in the pharynx should always be removed, is that they in great measure prevent the proper development of the chest and lungs In all cases of chronic catarrh I believe it to be of the utmost importance to insist upon the habitual and thorough cleansing of the nasal and post-nasal cavities with antiseptic solutions If this is not done the secretions of the part become more or less putrid, the resisting power of the blood serum of the organs on which we depend for the destruction of these and other pathogenic micro-organisms become weakened or destroyed and the body is thus rendered an easy prey to whatever poisonous germ may be able to find entrance

As will be readily understood from the previous part of this paper, the preventive treatment of this dread disease is by far, I believe, the most important Cases of this disease are, however, ever present with us, and the momentous question then presents itself What are the principles of treatment that should guide the physician in the management of cases of tuberculosis? The best answer to be given to this, therefore, will probably be found by making another inquiry, viz How are cases of tuberculosis (more especially tuberculosis of the lungs or pulmonary consumption) spontaneously or by medical aid cured? That these cases are cured is proven by the universally admitted fact that a large proportion of cadavers of persons who have died from many different diseases of the respiratory organs have, on postmortem examination shown indubitable evidences of having at varied periods of their lives suffered from tuberculosis of the lungs Dr J Hughes Bennet, in his classic work, "Clinical Lectures on Medicine," says (p 680) that the spontaneous arrest of tubercle in its early stages occurs in the proportion of from one-third to one-half of all the individuals who die after the age of 40. The observations of Roget and Boudet, made at the Saltpetriere Hospital, in Paris, among the individuals who were generally above the age of 70, showed that from one-half to four fifths of such persons had recovered from tuberculosis. As the larger proportion of these cases never received any medical treatment for their tubercular disease of the lungs, it must be perfectly apparent that the fluids or tissues of the body must have the power to destroy and render inert these poisonous micro-organisms. Where does this power reside? Metchnikoff thought he had discovered the answer when he elaborated the doctrine of phagocytosis, or the destruction of bacteria and other micro-organisms by the leucocytes or white corpuscles of the blood. Nutall, Buchner, Nissen, Lubarsch, and in this country, T. Mitchell Pruden and many others, have shown conclusively, however, that the power of destroying the bacteria, etc., resides not in the leucocytes, but in the blood serum. This preservative power of the blood serum also explains why it is that the human body is able to resist the destructive action of the innumerable poisonous micro-organisms which continually surround us. They exist in every breath of air we draw, in the articles of food we consume, and in much of the water we drink. Uncounted myriads of them are to be found in the digestive apparatus of persons who seem to be in all respects perfectly healthy. Professor Buchner of Germany states the time usually required for one microbe or germ to become two, by the process of division, is fifteen minutes. At this rate it is computed that a single microbe would produce in twenty-four hours a million million million times the present human population of the earth. Professor Law, in a paper published recently in the *Pharmaceutical Era*, estimates that a single bacterium dividing and redividing would produce in forty-eight hours, if undisturbed, 281,500,000,000, which in bulk would fill a half-pint measure—all produced in two days from a germ measuring the 1/150,000 part of an inch. Pathologic bacilli are just as numerous where found, and divide as rapidly. Professor Bollinger states that a cubic centimeter (about one fourth a fluid dram) of phthisic sputum (from a case of pulmonary consumption) contains from 810,000 to 960,000 tubercle bacilli. In an ordinarily copious expectoration the consumptive patient deposits nearly a million bacilli into his cup, and in an ordinary day he throws thirty or forty millions of these micro-organisms into the world. Then, at a low estimate, 10,000 tuberculous patients now living in New York City daily expectorate some 300,000,000 tubercle bacilli.

There exists, however, two conditions which have a most powerful effect in increasing or diminishing the power of the blood serum to destroy these poisonous micro-organisms. The first of these here to be mentioned is the high or low conditon of the health of the individual at the time of receiving the infection. If the individual is in a high state of health, his blood serum is then capable of destroying an immense number of these pathogenic organisms, and he is thus rendered immune to the disease.

Let us apply, then, the lesson to be drawn from the above-mentioned facts to the principles to be observed in the treatment of tuberculosis. Patients with tuberculosis can be cured when seen in the early stages of the disease and when they can be placed under proper conditions of hygiene. We enjoin perfect cleanliness, we direct that they shall receive an abundance of easily assimilated and nourishing food, we send them away from the vitiated and impure air of the city to breathe the pure and reviving air of the country, we give them cod-liver oil, tonics, the preparations of iron, iodin and its compounds, beechwood tar creosote, with now and then a little codein or morphin to allay the cough and procure sleep. This is not a long list of remedies, and in it there is nothing new. One fact to be noticed is that all the remedies which the experience of ages has taught us to be useful in tuberculosis are reconstructive medicines which tend to build up the body and improve the health. The second condition which greatly influences the fatality of tuberculosis as well as that of every other infectious disease due to the presence of poisonous micro-organisms, is that the deadly effects produced depend upon the number of bacilli introduced into the body at the time of receiving the infection. Experiments upon animals with many varieties of poisonous bacilli show a very close analogy to the phenomena produced by other poisons such, for instance, as opium, etc. If the dose of the poisonous bacilli is large, the animal dies, if it is small, his blood serum may destroy this limited number and he may recover. How then can we diminish this number of these bacilli in the immediate vicinity of our patient and thus prevent him taking into his system a deadly dose of these poisonous germs? The answer presents itself at once. Send your patient immediately to the seashore or country, still better, if his means permit of it, send him to the great table-lands of our country west of the Mississippi, to New Mexico or to some parts of California. He will come back to you perhaps in a year or two so changed and improved in physical appearance that you will scarcely recognize him. Above all things never send your consumptive patient to a sanitarium or a health resort, for if you do you have sealed his fate.

A great deal can be done to prevent the further infection of your patient, by the scrupulous disinfection of the sputum and its prompt destruction. Paper boxes for receiving sputum can now be procured for a trifle, these with their contents should be burned daily, thus removing at least one source of contagion. Tubercle bacilli in abundance have been found in the dust of rooms occupied by tuberculous patients, so the room should be as thoroughly cleansed and disinfected after occupancy by consumptives, as after having been used by patients suffering from any of the so called contagious diseases.

It is needless to dwell upon the stupendous failure of the lymph from which so much was hoped when it was introduced to us by the illustrious Robert Koch. It is perhaps presumptuous in me to have an opinion on a matter that belongs so especially to those who have made bacteriology a special study, yet I can not help expressing a conviction that we can not expect as much benefit as we hoped we would receive from these investigations. It seems to me that such laborers are working in a wrong direction. Since the world began tuberculosis has always been cured in one way, namely, by improving the hygienic or general health, and how the injection into the system of a concentrated extract of the poisonous materials elaborated by the bacilli can do this I am unable to discover. I had the opportunity of studying the effects of the hypodermic injection of the lymph sent by Robert Koch to this country My limited experience of its use leads me to believe it a most energetic and poisonous fluid, and one that is much more likely to injure than to benefit patients who are suffering from tuberculosis Other observers have had also very unfavorable experience with the new Tuberculin R of Professor Koch, as will be seen from the following taken from the *Medical News*, March 19, 1898, p 378

> The last two meetings of the hospital staff of the Charité (which constitutes a sort of medical society with bi weekly meetings) have been occupied with a discussion of Koch's new tuberculin– tuberculin R In April it will be year since the authoritative publication of the new method and announcement of the remedy Some definite conclusions, it would seem, might be reasonably expected The drift of opinion was all against the tuberculin R , and most of the clinicians did not hesitate to compare it to the old tuberculin in its effects, and some of them in its possible dangers Dr Huber, an assistant in Professor Leyden's clinic, has attempted to immunize animals in the way in which Koch immunized the animals which served as the basis for his conclusions in his last communication, but utterly failed The experiments seem to have been carefully carried out, the dosage of tuberculin was exact and sufficient and the observations numerous enough to do away with the idea that perhaps coincidence played a rôle in the results obtained Yet he failed to get the desired immunity The full details of the experiments are to appear in the next number of the *Zeitschrift für klinische Medizin*, of which Professor von Leyden is the principal editor After supposed immunization all the animals died when inoculated with tuberculous material, and interestingly enough, most of them before the control animals inoculated with the same material at the same time
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> In Professor Leyden's clinic there has been absolutely no success with the new tuberculin Patients acquire an immunity to reaction from the tuberculin itself, but no curative effects on tuberculin deposits have been noted At times some improvement occurred, but there never was complete disappearance of any physical signs of the disease which had been previously noted In patients with fever even Koch himself does not recommend it, and there is no doubt that it can and often does do harm in such cases
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> Non tuberculous patients may react to even small doses of tuberculin R , so that the employment of any such reaction as a sign of the presence of a tuberculous process in a given case is said here to be utterly delusive The conclusion of the experience in the medical clinic is that it is not a specific Therapeutically it is no better than other forms of treatment which are not near so costly and not near so worrying to the doctor , for in no case can this treatment be employed except under a doctor's immediate supervision These conclusions are shared by the workers in Professors Gerhardt's and Senator's clinics
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> Even Professor Frankel, the throat and nose specialist, who, on the strength of some lupus and laryngeal cases in which at first improvement seemed very rapid, was for some months an advocate of the new treatment, now admits that it is practically no better than many other forms of treatment for these affections, that it often fails to produce a change in the course of the disease, and never produces radical cure Only Professor Briger, Professor Koch's assistant in the Institue for Infectious Diseases, makes any claims as to the value of the tuberculin treatment The history of the second tuberculin forms an interesting commentary on the enthusiastic reception of the first Here it has had practically the effect of destroying faith in all so called specific remedies for tuberculosis Constitutional treatment, especially such as can be given in favorably situated, specially arranged consumption hospitals, is now the only method receiving any attention

Another and a very serious objection to the use of tuberculin R for diagnostic purposes arises from the fact that many people have encapsulated tubercular bacteria in the apices of their lungs, which are for the time being harmless If we inject the tuberculin R and obtain the reaction characteristic of tuberculosis we may awaken to activity these dormant germs and thus aid in poisoning the system of our patient instead of promoting a cure of his disease

While wishing most heartily, therefore, that the results of the injections of tuberculin R should have aided in destroying the most dreadful disease that afflicts humanity, yet we feel compelled to say that we have little hope of the cure of tuberculosis by this means

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ANTISTREPTOCOCCIC SERUM

Presented to the Section on Materia Medica Pharmacy and Therapeutics
at the Forty ninth Annual Meeting of the American Medical
Association held at Denver Colo June 7-10 1898

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Serum therapy has afforded a large field for speculation and exploration, and the achievements in it have marked an era in medicine The brilliant success of antidiphtheritic serum have assured us of the practicability of this mode of treatment in bacterial diseases, and we are justified in the hope that like results will be obtained in many or all diseases of this character It now remains for us to determine the bacteria which produce a given disease and provide a suitable medium for their cultivation, and the proper organisms for the production of antitoxins, and we may hope for a specific agent in the disease in question

The task here briefly laid out is by no means an easy one All diseases are not of bacterial origin Again the most virulent microbes do not always stand artificial cultivation without deterioration, and the tolerance or natural immunity in species or individual animals makes it no easy task to produce antitoxins of a given standard We are all cognizant of the work that is being done with the various antitoxins and are often surprised and disappointed because the results have not been so certain as in diphtheria Nevertheless, much has been accomplished, and the finer problems are being worked out one by one Advancement along this line is sure and certain, and the time is not far distant when other antitoxins will stand shoulder to shoulder with that of diphtheria and command the respect and attention of the medical profession for the results achieved To Marmorek is due the credit for the original work in antistreptococcic serum, but Dr Charles C McClintock of Detroit has carried on the work in this country so admirably that we have an American product which is as good as is possible under the existing conditions of our knowledge of this subject He, like other experimenters, has found it difficult to maintain pure cultures without deterioration This has been overcome in a large degree by inoculating rabbits and other susceptible animals with large quantities of pure culture, and in such rapid succession that a virulent culture is produced Having thus obtained a powerful toxin, a suitable animal must then be procured for inoculation This is somewhat of a difficult task, as in all of the domesticated animals there is the personal equation to be accounted for We all know that in man certain individuals are far more susceptible to streptococcic infection than are others This is also true of the horse The thoroughbred is not available, because of cellular degeneration due to inbreeding The animal dies, not because of his particular susceptibility, but because of the inability of the cells to produce a suitable antitoxin Again, the scrub is not available because of his tolerance, and a sufficient reaction does not take place to produce a standard antitoxin. Dr. McClintock was obliged, therefore, to select by experiments individual animals which had the power of producing a suitable serum. Recently he has carried on his experiments upon asses, and he believes them to be much more uniform in their susceptibility to streptococcic infection and capable of producing a more uniform antitoxin than the horse.

The animal selected is now inoculated with filtered cultures. Having thus obtained a slight immunity, he is next inoculated with pure cultures, the vitality of which have been impaired by heating. The virulence of the cultures is now gradually increased at each injection until he is able to withstand, with little or no reaction, large quantities of pure cultures of the most virulent type. This procedure occupies a period of time of from one to two years. The blood is drawn off and the serum is gathered and prepared in the same manner as for diphtheria antitoxin. Another difficulty now confronts us in the standardizing the antitoxin. This is usually accomplished by first determining the fatal dose of the toxin upon a given animal. Other animals of the same species are now injected with a great many times the fatal dose, and at the same time with a given quantity of the antitoxin. By continuing these experiments it can be determined to what extent a given quantity of the antitoxin will immunize the selected animals. Up to the present time this has not been accomplished because of the difference in susceptibility of different animals of a species to streptococcic infection. However, in a general way this has been accomplished, inasmuch as animals which have been inoculated with this toxin have died, while others of the same class and inoculated with large quantities of this toxin have been saved, or their lives prolonged, or their symptoms ameliorated by the use of antistreptococcic serum.

The practical work of this serum has not been confined to the laboratory. It has been largely used upon human beings, and while the results have not been uniformly good, there have been enough successes, and brilliant ones to commend it to the profession for their careful consideration and approval. Marmorek used it with great success in curing forty-five out of forty-six cases of erysipelas (*Therapeutic Gazette*, 1898, p. 114). Dr. Chantemasse has collected statistics respecting the treatment of erysipelas, both by the old symptomatic treatment and the new antistreptococcic, the mortality in the former was 3.79 and in the latter 2.59. Gauchez (*Therapeutic Gazette*, 1898, p. 1159) records the case of an infant six weeks old with erysipelas which started at the umbilicus and became general. After the usual line of treatment had been resorted to for fifteen days, the child gradually becoming worse, antistreptococcic serum was used, and after the first injection the temperature dropped two degrees. The child continued to improve and was cured.

A case of puerperal fever treated with antistreptococcic serum with happy results is reported in the *Lancet*, 1898, p. 779. Fraser notes a case of puerperal septicemia which was much modified after the injection of this serum (*Lancet*, 1898, p. 496). MacNalty (*British Medical Journal*, 1898, p. 85) records a successful cure of puerperal peritonitis with the serum. In the *British Medical Journal*, May 15, 1897, Watson Cheyne gives results of treatment of operation involving subsequent sepsis, where antistreptococcic serum was used with good results. He advises the injection after operation as a prophylactic against septic processes. A. Knyvett Gordon (*Lancet*, 1897, Vol. 1, p. 34) reports a case of rapid improvement due to its use in scarlet fever. In this case the child was to all appearances dying from septicemia; he was semi-comatose, with failing heart. After one injection he rallied, and after the second rapid improvement took place. Dr. A. W. Russell, at a meeting of the Glasgow Obstetrical Society held Feb. 24, 1897 (*Lancet*, 1897, Vol. 1, p. 813), reported a case of puerperal toxemia with symptoms of mania in which he had used antistreptococcic serum and recovery had followed. Dr. Guttman of Detroit had in his practice recently a case of general erysipelas which showed favorable results within a day after the injection of antistreptococcic serum. The fever and local inflammation at once began to decline and the patient was cured. The Doctor stated that he had exhausted every means known to him, but without any effect until he was advised to use the serum treatment. A case of acute otitis media cured with antistreptococcic serum is recorded in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Feb. 6, 1897, p. 272.

Reporting a case of septic absorption following the operation of oöphorectomy cured by the use of the serum, Dr. Scott McGregor (*British Medical Journal*, 1897, Vol. 2, p. 805) says: "I am inclined to believe that the recovery which resulted in this case, and with the small quantity of serum used, was due in a great measure to the prompt use of the serum at an early stage of the disease." Mr. Stephen Paget read a paper on cases of blood poisoning treated with antistreptococcic serum, and gave the general results of treatment up to the present time. He said that the four diseases in which the serum had received a fair trial were scarlet fever, puerperal fever, erysipelas and poisoned wounds. He presented statistics showing the great advance in reducing the usual frequency and fatality of the complications of scarlet fever, preventing suppuration, causing the throat inflammation to subside and in checking delirium.

My personal attention was attracted to serumtherapy as a cure for streptococcic infection some three years ago, when treating a case of inoperable sarcoma with Coley's toxins, when I completely immunized my patient against streptococcic infection. This demonstrated to me the feasibility of procuring an antistreptococcic serum, but having no laboratory of my own in which to produce the serum, I was obliged to wait until it was put on the market. At an early date I procured some made by Parke, Davis & Co. and commenced experimenting with it.

While thus engaged I was called to see a lady 71 years of age, of rather feeble constitution who was suffering from a violent attack of facial erysipelas, the infection having taken place in a small furnicle in the nose. The disease spread with frightful rapidity extending to both sides of the face, closing the eyes and involving the ears. The attack was so violent that one could see the invasion of new tissue. The temperature reached 104, pulse 140, the patient having all the symptoms of severe septic intoxication. I sterilized my field of injection between the shoulder blades and injected 10 c.c. of Parke, Davis & Co.'s antistreptococcic serum, which was all I had with me, and telegraphed them for more. This was at 2 P.M. In a few hours the patient be[illegible] the pulse became slower and the temp[illegible] degrees. At 4 A.M. the following [illegible]ed th nurse and told her she felt perfectly well The tenderness had entirely left the face, the toxic symptoms had subsided and the pulse and temperature were nearly normal At 8 P M the patient had a chill, which was followed by another exacerbation of the disease The heart was overpowered and showed signs of extreme intoxication The disease extended into the meatus of the ear, the temperature reached 103 5, which was followed by a mild delirium At 1 P M, the serum which I had ordered the day previously having arrived, I again injected 10 c c with most happy results Within two hours the heart was again beating naturally and the symptoms gradually subsided In twelve hours the temperature was normal, the pulse only slightly accelerated and the tenderness all gone I then injected 5 c c as a prophylactic against further exacerbation and in twenty-four hours I again repeated the dose The patient made an uneventful recovery desquamation taking place within twenty-four hours from the last injection

Within a few weeks I was called to attend a woman suffering from puerperal fever From the clinical picture presented, as well as from facts surrounding her confinement, there was no question in my mind as to the diagnosis of streptococcic infection Her temperature was 104 5, her pulse 150 She was a young woman of robust constitution, and afforded an excellent opportunity for the demonstration of the efficacy of antistreptococcic serum in this type of puerperal infection Ten c c of Parke, Davis & Co 's serum was injected, which was repeated in twelve hours In twenty-four hours from the second injection the patient was absolutely well, no indications of the previous infection being in any way manifest I have used the serum in a number of cases with results varying in direct ratio to the positiveness of my diagnosis In all cases where I knew that the infection came from the streptococcus erysipelatus, the results were uniformly good

Dr Madden handed me the following report of a case which he exhibited before the Milwaukee Medical Society

L A M, 40 years of age, subject to repeated attacks of facial erysipelas during the past four or five years, has had eight attacks of considerable severity The disease generally began on some point of the face and extended over the whole head, on two or three occasions involving the neck and one shoulder The length of these attacks varied from fourteen days to two and a half months About February 1 a characteristic attack began on the right ala of the nose, extending upward and backward over the right cheek The patient applied for treatment on the second day of the disease. At that time the parts bore all the characteristic signs of erysipelas On the morning of the third day 10 c c of Parke, Davis & Co 's antistreptococcic serum was injected in the subcutaneous tissue between the shoulders Two hours afterward the patient declared that he felt relieved In twenty four hours the activity of the disease seemed to have completely ceased, and in forty eight hours desquamation had begun The progress of the case from this point was uninterrupted until complete recovery

In conclusion, I would say that, owing to the fact that this serum has not yet reached a state of perfection and can not as yet be accurately standardized, we are apt to meet with some failures and be subjected to some disappointments in its use A great many diseases of mixed origin are supposed to be benefited by this serum, but the results of its use must be determined by the extent to which the streptococcus erysipelatus infection acts as an etiologic factor in the disease Any disease which is caused by streptococcic infection is certainly benefited, if not cured, by antistreptococcic serum Serum which is reasonably fresh and hermetically sealed, having been properly prepared and properly inspected, is never an element of danger and may be used with impunity, in reasonable quantities, where the diagnosis is not clear, but where streptococcic infection is suspected

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SOME OBSERVATIONS ON THE AURI ET SODII CHLORIDUM U S P

Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY DANIEL R BROWER, A M, M D, LL D
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CHICAGO

Auri et sodii chloridum is a mixture of equal parts of dry gold chlorid and sodium chlorid It is very soluble in water and very easily decomposed by sunlight and organic matter, This drug is tonic, alterative, bactericidal, and antiseptic It acts on the digestive tract, in small doses improving the appetite, stimulating the functions of the liver and stomach, promoting assimilation and general nutrition The larger doses continued produce epigastric pain, nausea, and anorexia Still larger doses produce violent gastro enteritis without ulceration and salivation Six and a half centigrams (gr 1) have produced these symptoms in an adult, and this same dose has produced death in a dog in four minutes

In anemia, in small doses, it increases percentage of hemoglobin and the number of red blood corpuscles, on the nervous system, in small doses, it is a cerebral stimulant, making the mind more active, and often inducing in the mentally depressed a sense of cheerfulness, upon the spinal cord it acts as a stimulant In man it acts as an aphrodisiac, and in woman it augments the menstrual flow In large doses it produces paralysis of the central nervous system, first in optic lobes and cerebellum, then in spinal cord, and then in cerebral lobes In medicinal doses it increases urinary secretion and the percentage of urea In large doses it will produce renal hyperemia and albumin in urea

The bactericidal and antiseptic powers have recently been investigated by Prof L Hektoen, at my suggestion, and he writes as follows

May 26, 1898

Dear Doctor —Sternberg, in his Manual of Bacteriology, made the following statement of the bactericidal and antiseptic properties of chlorid of gold and sodium

	Destroys	Restrains growth
Anthrax bac	1 8000	1 40,000
Diphth bac	1 1000	1 40,000
Bac glanders	1 400	1 15,000
Bac typhoid	1 500	1 20,000
Spir Asiatic chol	1 1000	1 25,000

I have had the necessary experiments repeated by Mr Danielson, who finds that with our cultures the above figures hold good with the bacillus of diphtheria and typhoid fever as to bactericidal powers, but that the dilutions mentioned do not destroy the other germs mentioned He found that growth was delayed by the dilutions of Sternberg in the second column

Yours sincerely, L Hektoen

Shoemaker (Materia Medica and Therapeutics, 3d, Ed, p 226), quoting Calmette, says that it is antidotal to the poison of the cobra de capello Gibbs and Shurley (*Therapeutic Gazette*, April 15, 1891) demonstrated its bactericidal power against bacillus tuberculosis First by inoculating guinea pigs and a week afterward treating them with auri et sodii chloridum, limiting the lesion to the seat of the inoculation, second by putting healthy animals under treatment for one or two weeks before inoculation, and thereby preventing in these even the formation of an abscess at the seat of inoculation

The elimination of gold and sodium chlorid takes place principally by kidneys and, to a small extent, by liver and bowels There is an astonishing amount of skepticism in the profession as to this drug Some of this, at least, arises from the fact that it is very unstable, being readily decomposed by light and organic matter Sufficient care is not exercised in its combination with other drugs, or too large a quantity is ordered, so that decomposition has taken place before its ingestion, or its administration is not properly timed, so that destruction takes place in the stomach The best vehicle with which to combine it in capsule is tragacantha or guaiac resina, neither of these decomposes it The time for administration should be one hour after eating, or, better still, one hour before eating The ideal method for administration is by hypodermatic injection, the solution used being made with equal parts aqua destillata and glycerina

Syphilis—The remedy is useful in syphilis, especially in those cases in which the iodid and mercurials do not agree, or in which there is a great amount of debility Dr E F Ingals (Diseases Chest and Throat, page 448) recommends it in syphilitic laryngitis M Martineau (*Bull et Mm de la sac, de la Therap*, April 30, 1883) recommends it in cases of inveterate syphilis One of his cases, a woman in an advanced state of cachexia broke her fibula, probably because of specific change in the bone Though rebellious to other treatment, she recovered quickly and the fracture united readily under gold treatment W Hale White (Mat Med and Therap, Wilcox, 2d Ed, p 187) says it is a valuable remedy in the tertiary manifestations of syphilis, especially of the bones, and presents fewer disadvantages than does the corrosive mercuric chlorid Shoemaker (Mat Med and Ther, 3d, Ed, p 226) and Potter (Mat Med, Pharmacy and Therap, 3d Ed, p 123) both emphatically endorse it for the treatment of syphilis in its later manifestations

The drug is useful in the treatment of connective tissue hyperplasia, as in cirrhosis of the liver, interstitial nephritis, arteriosclerosis, and the spinal scleroses Millard (Bright's Disease, p 220) writes "The chlorid of gold has proved of great value in interstitial nephritis Under its use I have often known the albumin to diminish and disappear," and again, "At all events its usefulness in chronic nephritis has sometimes been unmistakable, and it is likely to prove still more useful if the patient suffers, as is usual, from nervous symptoms, hypochondriasis, irritability, vertigo, etc" Bartholow (Practice of Medicine, p 400) writes, anent topic interstitial nephritis "Better results even, the author believes, are procured from the careful and persistent administration of the chlorid of gold, or of gold and sodium" Baumgarten (Reference Handbook Medical Sciences, Vol iv p 282) writes (referring to Dana, *Boston Medical and Surgical Journal*, Oct 24, 1883) under "Contracted Kidney" Marked improvement and mitigation of distressing nervous symptoms have been observed from the use of chlorid of gold and sodium (0 005=1/12 gr) in pill after each meal Culbertson (*Am Jour Oph*, July, 1894) relates a case of albuminuric retinitis relieved by chlorid of gold and sodium W H Walling (*Medical and Surgical Reporter*, Philadelphia, 1897, Vol lxxvi), writing of sclerosis generally "I will state my belief, founded on an experience of twenty years, that gold is far more efficient than any other drug I know of"

My first experience in the use of this remedy in interstitial nephritis was about fifteen years ago The case came under my treatment because uremic symptoms had developed after severe exposure When these acute symptoms disappeared he was given chlorid of gold and sodium, and he continued it in varying doses for five years, the albumin gradually diminishing and finally disappearing Several examinations of the urine were made five years ago and no casts or albumin were found I am sure that I have also repeatedly seen advantage from its use in the early stage of posterior and combined spinal scleroses

Diabetes mellitus—J A Robison (*Chicago Medical Recorder*, May, 1891) reports two cases of diabetes mellitus cured by its use A recent communication from Dr Robison informs me that these cases continue well and that an equally favorable result has been reached in other cases

Functional diseases of the nervous system—Niemeyer (Text Book Prac Medicine, p 386) writes "I have accidentally hit upon a nervine of great efficacy in hysteria and have made use of it with signal effect in many cases" The formula he recommends is

℞	Auri et sodii chloridi	0 30 gm (gr v)
	Gummi tragacanth	4 00 gm (dr 1)
	Sacch alb q s ft in pil No 40	

Sig Begin with two pills a day, increased to eight pills daily

Mills (The Nervous System and its Diseases, p 238) writes "Sodium and gold chlorid, although it has attained an unmerited reputation in some directions, is a valuable tonic, and I not infrequently use it in the treatment of hysteria and other affections"

My personal experience is in accord with these great clinicians, and I especially desire to emphasize its value in that complexus of symptoms called neurasthenia

Tuberculosis—Gibbs and Shurley (*Therapeutic Gazette*, April 15, 1891) report twenty-seven cases of pulmonary tuberculosis treated with the drug, used hypodermatically, in doses 0 003 gm — 001 gm (1/20 gr —1/6 gr) during three to eight months, with gradual disappearance of temperature and cough, increase in weight, and disappearance of bacilli Pepper (Univ Med Mag, December, 1895) reports a case of phthisis apparently cured by the use of this drug

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GOLD CURES IN INEBRIETY

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY T D CROTHERS, M D
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Any remedy introduced, surrounded by mystery and sustained by falsehood and deception, is unworthy of notice Yet a number of physicians have expressed confidence in the value of gold as a remedy, both in inebriety and allied brain affections This theory has been recognized by reputable druggists who have prepared several preparations of gold for administration chiefly by the needle The [illegible] tions called "gold cures" whenever analyzed are found to contain no gold whatever The assertion that no chemist can ever make an analysis of such preparations is absurd As a medicine gold has been rarely used by the regular profession, In the first century of the Christian era Pliny mentions it only to doubt its value unless taken with large quantities of drink, which destroys its potency for evil The Arabian physicians for hundreds of years mentioned gold as an elixir of life, believing it of value in renewing youth and prolonging life This doubtful theory continued and appeared in old works of chemistry down to the last century No one made a test of it, but simply repeated it in terms of vague doubt The alchemist charlatans have always been defenders of gold as a remedy It is a curious repetition of modern experience that at least three much vaunted remedies contained no gold at all In 1540 Gallus, a physician of Paris, claimed to have a gold cure for syphilis and gave the formula an impossible combination Glaser, a London doctor in 1663, claimed to have a diaphoretic powder of gold for intermittent fever This was equally fraudulent and no gold was found in the preparation, although it was used for many years with great popularity From 1725 to 1780, Lamotte's gold drop was famous throughout Europe and was called a tincture of gold, but contained no gold Neuman wrote nearly two hundred years ago "Gold has been held to be possessed of extraordinary medicinal virtues, and many preparations dignified with the name of this precious metal have been imposed on the public, but the virtues ascribed to gold have apparently no other foundation, than credulity and superstition and most of the golden remedies have no gold in them " Even when gold has been employed in their preparation none of it is retained in the product

Gold is non assimilable, and its modern use is confinded to quacks who trade on the name The modern craze for gold as a remedy is simply a repetition of charlatans' schemes of the past centuries, who sought to meet and supply the demand for elixirs of life, renewing youth and postponing old age Croll, a German physician in the sixteenth century, mentions over a hundred different preparations of gold, each if made by the formula would be absolutely free from gold This was illustrated in the modern gold cures, which from their names were found to be chemic impossibilities Their value in inebriety depends on credulity A yellow mixture of some vegetable extracts injected in the arm, followed by general relaxation and diaphoresis so profoundly impressed the inebriate chemist that he has ignored all teaching and experience for the belief that the hidden virtues of this drug have been discovered and will revolutionize pharmacy in the future I have tried three of the known preparations of gold made by reputable authorities, on cases of inebriety, with no results whatever When strychnin, cinchona and other remedies were given, associated with gold, the effects were marked The same results followed when gold was not used Infusion of cinchona in large doses at frequent intervals resulted in rapid subsidence of the drink craze and a distaste for both the flavor and effect of spirits Injections of gold were not noticeable for any effects on the taste or desire for spirits By impressing the mind of the patient with profound conviction of the value of the drug, and detailing the expected results which would follow, and by using colored water the exact effects would appear In some cases this impression is so powerful as to materially change the disease Supposing gold to be used, it must be combined or given with some other drug of pronounced effect on the body, or preceded by expectancy and credulity, to be followed with any results This would be the same in any other disease of the body, to specialize any effects from the drug alone would be impossible Inebriety is more than alcoholism, it includes disorders of which the desire for spirits is only a symptom The real trouble is some central disease of the brain so complex and obscure that no drug or therapeutic agent can reach it specifically For a quarter of a century a great variety of remedies have been used in inebriety, with the same results as in all other empiric efforts to reach an unknown disorder by remedies whose action was largely unknown Some drugs like strychnia have some influence in checking the drink symptom, but beyond that nothing is known

Gold, whose effects are unknown and even to its defenders are surrounded by mystery, can not possibly be of any service in checking an unknown disorder Its use must be empiric and irrational always, except as a mental remedy to influence the mind Experience indicates that it is extremely doubtful if any remedy exists for this obscure neurosis of the brain Combinations of therapeutic measures are valuable and their action marked in many cases, but no single drug can have any curative influence The checking of the drink symptom is the same as using opium for pain, leaving the cause uninfluenced On general principles, gold or any single drug can have no specific influence in cases of inebriety and all specifics—either single remedies or combination of remedies—are fraudulent and empiric Inebriety is not reached by drugs alone or special, concealed plans of treatment It is a neurosis to be treated as other affections of the brain and nervous system Even under the most skillful care, with the best appliances known to science, it is often incurable and only temporarily influenced by therapeutic measures The degenerations which precede and follow the use of alcohol are organic changes of cell and nerve tissue, and restoration is problematic, depending on causes and conditions largely unknown, therefore, the discovery of a remedy to check decay is impossible with our present knowledge of medicine It will require a century of study and experiment before we can speak positively and authoritatively on the pathology and therapeutics of inebriety Yet a number of men are confident that drugs are found—or will be soon—to cure and restore the inebriate to health again This expectation is met in the gold cures, where color and price are accepted as evidence This, with the hysterical assertions of cure and statements of health, reiterated with great positiveness, becomes a mental contagion difficult to resist by unstable defective alcoholics The acceptance of this testimony by persons not inebriates is ignorant credulity difficult to explain Why gold should have any influence in these complex drug neuroses, and not in the more common affections is a mystery, why the use of gold should be confined to irregular and doubtful practitioners is also a mystery Why should gold be wanting in the preparations said to contain it? Even when present, its combination with powerful drugs makes it difficult to know the value of any one of them, unless the physiologic effects of that drug appear

A physician who reported ten cases of inebriety cured from the use of gold used barks and strychnia freely at the same time, and yet seemed to think the action of gold was prominent Another physician used colored water injection as gold and impressed the mind of the patient with the certain effects which would follow The drink craze subsided and the patient recovered In many cases under my care, who have been cured in the gold cure asylums at different times, there is concealed periodicity The drink symptom is limited, and disappears naturally both with and without drugs Such cases always make rapid recovery from the use of any drugs, and assert their final cure most positively They pose as examples and illustrations of the effect of remedies, and the medical man becomes bewildered with the faith of a new discovery of some new effects of drugs If it is gold or any unusual medicine, he is more convinced These cases continue cured for irregular intervals, then relapse again and after a drink paroxysm of uncertain duration recover The first subsidence of the drink storm makes them willing to be treated medically Or when forcibly taken away and put under treatment they suddenly acquiesce, and after the first few days recover, no matter what is given This is popularly called the sobering-off process, and in all the quack asylums is limited to four weeks It is not scientific treatment, but a mere preliminary to the full restoration, which only comes from months and years of medical care The use of gold in this period would not be a final test, and its virtues could not be known from its supposed effects at this time There is no gold cure for inebriety There are no facts to show that gold has any value in this disease All the assertions and statements concerning gold as a remedy are delusions, and will not bear the test of critical examination

THE TREATMENT OF INSOMNIA

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1897

BY ROBERT T EDES, M D

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Insomnia is, of course, only a symptom but, like many other symptoms, it occasionally stands alone as representing some functional disturbance of which we have no other means of information When we speak of the treatment of insomnia as such, we ought not to include the treatment of the pains or discomforts from various known sources which may keep the patient awake, or of many forms of insanity, of delirium tremens or other kinds of poisoning

This narrows our limits very much, but at the same time makes the problem more precise The practitioner or writer, however, does not get rid of its difficulties by these exclusions, for many of the cases which present no other important symptoms, so that the patient has nothing to tell as to his bodily condition except that he can not sleep, are more difficult to manage successfully than one where we can put a finger on some definite disturbance that is a sufficient cause For the treatment of insomnia does not consist in making a patient sleep for one, two or a dozen nights by the use of drugs, but in getting his brain into such a condition with or without drugs that he goes through the normal, regular alternations of sleep and wakefulness, of cerebral activity and repose without special assistance but simply as a part of the physiologic functioning of the brain

The first thing then to be done when one applies for the relief of insomnia, is to determine whether it is insomnia at all in this narrower sense that is, whether it is not possible to find a cause in some irritation outside of the brain, some disorder of the digestive or circulatory system, some accidental disturbance, which prevents its coming to its normal rest, or whether its abnormal activity is not the accompaniment or precursor of some more defined and perhaps serious form of mental disturbance The expression sometimes used by patients, that they will go crazy if they can not sleep, is not always to be looked upon as a mere exaggeration, for although fortunately in the great majority of cases it is so, yet the possible warning should not be overlooked If you find no such specific cause and ask the patient what prevents him from sleeping when the proper time comes, he is likely to answer, "I do not know I simply can not go to sleep," or else, "I get to thinking and can not stop "

There is no theory of sleep which is thoroughly satisfactory, and it is by far the most probable that the changes in the cerebral circulation which have been observed are the results rather than the causes of diminished activity Still, those theories which connect the varying conditions of sleeping and waking with the state of the blood-supply to the brain, or even to certain parts of it, and its control by the regulation of the quantity going to other parts or to other organs, make the most useful working hypothesis in many cases of insomnia But it would be as absurd to expect it to cover all the ground and to stand the test of therapeutics in every direction as it would be to look for exactly the same conditions in every case of paralysis, or neuralgia, or tremor That the surface of the cerebral hemispheres is usually in a condition of relative anemia in normal sleep and also, as a natural consequence, that other parts of the body and in particular the skin, as recently shown by Howell, are apt to contain more than the usual amount of blood, are tolerably well established facts But congestion of the brain, although certainly not a condition of normal sleep, produces symptoms not very different from it, and on the other hand, cerebral anemia, whether as a part of general anemia or only local, gives rise to symptoms just as far from normal sleep as those dependent upon an opposite condition of the blood supply It is probably just as true in insomnia as in many other visceral states, that the demands of the nervous centers regulate the supply of blood, rather than that their activity is dependent solely upon vasomotor conditions which are themselves independent of the needs of the tissues

So far as the action of drugs may throw some light upon the relation of vascular tension to sleep, there is certainly an approach to the rule that many of those drugs which tend to relax it, like alcohol and chloral, are also under favorable circumstances hypnotics, while those which raise the general tension like the theine group and cocain are decidedly promotive of wakefulness But there are so many exceptions, and the hypnotic and vasomotor effects are sometimes so distinctly separate that it is not very easy to suppose that the relation of causation is an invariable or very close one

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[NOTE —A paper of which this is to some extent a revision was read to the Section on Therapeutics of the British Medical Association at Montreal and published in the British Medical Journal for Oct 2 1897 as having been read by Dr R Ferguson of Western University The error was corrected in the index of the volume but notwithstanding several notifications not in the text of any succeeding number]

Digitalis, which raises the general tension more persistently than almost any other drug, does not specially tend to wakefulness The nitrites, which diminish it extremely and with a rapidity varying according to the basic combination, are not hypnotics, and in particular the amyl salt, which produces vasomotor paralysis with such extreme rapidity that we might reasonably expect it to be not merely a hypnotic but an anesthetic, has no such effect in its early stages when the paralysant action is at its height

Aconite, which in poisonous doses is such an extreme paralysant of the circulation, is not a hypnotic Even in the instances where moderate vascular relaxation and drowsiness are among the consequences of the action of the same drug, the relation in point of time may not be a close one Chloral, which even in small doses is not only among the most certain but the most prompt hypnotics, produces an initial rise which does not pass into depression until a later stage or with larger doses Alcohol, on the contrary, produces a speedy vasomotor paralysis of the superficial vessels, as may be seen in the flushed face and general moisture of the skin, at a time when the brain, especially in its motor functions, is in most rapid, if not most accurate, activity

Of course, it is possible, by assuming in some cases an alternation of cerebral and general vascular tension and in others a coincidence, to reconcile some of these apparent contradictions with the general theory of sleep as due to cerebral anemia, but this assumption, which even if possible or probable is certainly unproven and capricious in its application, can not be regarded as at all satisfactory, Waking and sleeping undoubtedly indicate the normal rhythm of cerebral nutrition, the alternation of waste and repair in the nervous substance itself

The rhythmic curve is a function of several variables and probably not identical in form in all individuals One of the most important of these is undoubtedly the condition of the cerebral circulation as controlling the supply of nutritive material and also the balance of pressure between the blood and nervous protoplasm Beside this, however, there are two laws of nervous activity, partly dependent on each other and partly opposed, which are probably not controlled by the condition of the circulation, at least, that is, when it varies only within the usual limits 1, the tendency of nervous force to discharge itself along the same paths with constantly increasing ease, i e, the formation of habitual associations of ideas and movements, 2, the tendency to rhythmic action, i e, excess of expenditure over income during a certain time to be made up by accumulation during rest

If we have the first of these, as applied to the attention or to some limited center of cerebral activity, gaining the ascendancy over the second, so that the action does not cease at the end of the proper time when the reserve of energy is running low or become transferred in a lower grade to some other region (sleep with dreaming), we have insomnia, which is only slightly affected by the condition of the blood supply

In treatment of chronic insomnia, in the first place a normal and sufficient general nutrition is to be looked out for as the basis for normal cerebral nutrition, but this does not necessarily imply the stuffing process A useful criterion is the body weight in reference to the height and usual or normal condition of the individual, and diet is to be regulated on this basis Secondly, the distribution of the blood is to be equalized, with the balance however tending to anemia of the brain rather than the reverse, though by no means to the extreme The derivation of blood may be accomplished by hot baths to the feet, or the lower half or even the whole body, emphasized if necessary by a little mustard The well-known expedient of a small amount of easily digestible food just on going to bed or on waking up in the course of the night, probably acts to a considerable extent, at least, in the same way The hot toddy, which also keeps coming up in the papers as a new discovery, adds to a slight direct narcotic effect the early vasomotor dilating action of alcohol

Another illustration of the same influence is to be found in the intense drowsiness that comes over one who has been for a long time in the cold and who sits down in front of a cheerful fire, when the blood previously driven to the interior of the body flows outward again as the arterioles dilate

Cold feet are often an accompaniment or partial cause of insomnia, and it is well to promote the circulation in them by a hot bath for five minutes, followed by a short cold douche and friction, rather than to simply attempt to warm them by hot bottles and the like The cold pack is a more extensive application Two methods described by Dr McAllister at Montreal, as useful in the case of students unable to sleep while cramming for examinations, undoubtedly owe their power to the production of a general vasomotor reaction following the brief superficial application of cold The first of these was the very simple plan of parading the room absolutely naked, and the second, wringing out the night shirt in cold water and resuming it with the addition of a sweater

There seems to be a certain medium degree of activity in the cerebral circulation necessary for normal sleep, and it might be expected that it would be so On the one hand the production and discharge of nervous force, resulting in cerebral activity and wakefulness, can hardly be prevented while the neurons are being bathed by a rushing current of highly arterialized blood On the other, sleep is not simply and solely a condition of exhaustion It is the preparation for waking activity and the occasion in which the storage of potential energy for future use must for the most part take place This of course can not be accomplished unless the cells have presented to them a supply of nutriment for building up again their wasted structure The promotion of the general nutrition is of great value in the treatment of insomnia, especially of the chronic form Sometimes it is sufficient without the introduction of any more specific measures in restoring the normal function But while it is necessary that suitable nerve food should be prepared in due quantity and delivered, speaking both literally and figuratively, under due pressure, yet a third condition is quite as essential, namely, that the nerve centers themselves shall have the power properly to dispose of it, that is, absorb and store it People lie awake when the extremities, the skin, the viscera, so far as any one can judge, are properly supplied with blood, and when everything seems conducive to its orderly distribution, everything, that is, except the condition of the brain itself Either an excitement which can not be abated or an excitability which makes slight disturbances into great ones drives away repose, and an active congestion is the result of the too long continued demand upon the brain, or, much more probably and usually, upon some quite limited portion of it which is the center of disturbance and prevents the repose of the whole

A brain in perfect health arrives gradually at a condition of fatigue which more or less peremptorily compels sleep, and the more so the longer the period of deprivation But sometimes the brain or some part of it does not follow the laws of fatigue and is capable of working, or rather insists upon working, in the same direction it was following when work should have ceased The rate of production is undoubtedly low and in most cases, so far as any useful thinking is concerned, none at all, but the condition is not one of rest It is much as we might imagine would be the case in a mill somewhat worn and with a water supply insufficient for continuous working, if the gate got out of order so that the pond could not fill up Then a little stream of water, not enough to grind any corn, might keep the wheels moving and prevent proper repairs or the accumulation of enough power to do any good The proper thing to do in such a case is obviously to fix the gate in complete order, but if this for any reason can not be done, it may be proper to stuff it full with something or other to save the water and stop the mill for repairs When the current of wearing thoughts will not stop, we may occasionally stuff the gate with hypnotics

Cases where sleeplessness results from adequate causes—pain, discomfort or extreme sensory irritation, bright lights, loud noises—are hardly to be reckoned true insomnia at all, but the line which separates the adequate from the trivial varies greatly according to the makeup of the individual, and in the same person at different times The psychic element is very distinctly shown in the great diversity of effect produced by disturbances according to the mental attitude of the would be sleeper A noise which he considers perfectly legitimate or for which he feels no responsibility is much less likely to keep him awake than those which come closer to his sense of the fitness of things or his personal feelings, though in themselves no worse in respect to loudness or quality, like that of the absurd dog who bays the moon, or the neighborly cough for which he has himself prescribed ineffectually, or the single mosquito he has made up his mind to kill This is not the same state of things as is investigated by the psychologists, who take the loudness of the noise (dropping of a ball) necessary to awaken the sleeper as a measure of the soundness of the sleep

Cases have been observed where, several of the senses being wanting, a temporary stoppage of the channels of the remaining one has resulted in sleep within a few moments, but it is a very common observation that noises which are continuous and to which one has become accustomed, and for which he no longer waits, cease to have any effect upon a sleeper except on their sudden cessation, which then acts as the irritant It is necessary to bring the *attention* to rest

That a certain thin streak of waking consciousness may be made to run through the sleeping condition, perhaps always to some extent does so, is shown by the ease with which many persons can wake up at a predetermined hour

It is probable that the sensible fatigue of mental labor depends not so much on actual cerebration, the association of ideas, as in forcing the work to continue in certain definite directions without regard to outside distractions After a time this becomes more and more difficult, and stronger and stronger irritants are necessary to retain the attention Thus we have under normal conditions the soothing effect of monotonous repetitions as of music, the prosy speaker, the more or less intentional hypnotist In normally going to sleep the attention, either because too much fatigued to act longer or failing to receive adequate stimuli from without, ceases to exercise its control in co ordinating the intelligence received from the special senses and from the various departments of the brain Cerebration dissociates itself from the recent memory and from the data of sight, hearing and feeling, as they are rapidly becoming blunted Definite thinking becomes dreaming Probably every one has noticed in himself the process of going to sleep carefully enough to know that the rapidity of the coming on of full sleep varies greatly, and while one may, as the phrase goes, drop to sleep as soon as the head touches the pillow, there is usually an interval in which real impressions are mixed with the images of dreams, and even in quite sound sleep the current of the dreams is more or less influenced by bodily sensations Attention should be withdrawn, if possible from habitual disturbing and anxious thought, not just *at* bedtime, but *before* it, and the interval should be employed in some entirely different occupation

True insomnia, as distinguished from an interference with sleep by special somatic causes, seems to consist largely in the attention refusing more or less absolutely to surrender its directing and controlling power over the action of the brain Perhaps the associational centers of Flechsig may, by too long continued and intense activity without rest, or a current of ideas confined within narrow and monotonous limits, get into a condition analogous to that of the motor centers in writer's cramp or chorea

The products of a partially exhausted cerebral activity, which should be allowed to float vague and purposeless, calling for an expenditure of energy much less than the nervous tissue is capable of reacquiring during the same time, are still more or less held together and intensified, so that the potential energy of the nerve centers is drained away as rapidly as it accumulates, the output exceeds the income, the patient gets but little rest, and arises unrefreshed It may be remarked, however, that the effect of two or three nights of this form of insomnia is less absolutely and thoroughly exhausting than the same period of enforced wakefulness under great pressure, as for instance, that of a sentry, a nurse, or an engine-driver working overtime, although the latter may occasionally pass into the former, as an acute disease into a chronic

A purely experimental want of sleep produced by constantly waking the persons experimented upon, although to be sure assisted as far as possible by themselves, seems to have produced singularly little disturbance in nervous or cerebral function and to have been recovered from with an amount of extra sleep much less than that lost, varying from 16 to 35 per cent[1] In these cases, however, the mental strain in the form of anxiety or responsibility was almost *nil*, and it is not difficult to understand how the effect upon the reserve supply of nerve force may have been correspondingly less

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[1] G W Patrick and J Allen Gilbert Psychological Review [illegible]

A plan sometimes resorted to in desperation by victims of insomnia, that of producing great bodily fatigue, as for instance by a walk far beyond the usual habit or ability, is an extremely bad one and usually fails entirely of its object As with the circulation, a certain medium degree of fatigue is required for the best kind of sleep, and if increasing the burden is to be of value, it must be shifted so as to moderately fatigue new portions of the brain, and not deepen the old ruts from which it is already too difficult to dislodge the current of the thoughts Mere labor which fatigues the muscles without engaging the attention in something outside the fixed and disturbing current of associations does not fulfil this indication

At Montreal, Dr Learned of Northampton suggested successive series of slight movements of separate groups of muscles, raising the head from the pillow a certain number of times then one arm, one foot, and so on, is much nearer to the object sought, since it requires a certain amount of mental effort and attention to carry out the plan properly, and when the proper point is reached the patient is already in bed to avail himself of it Reading one's self to sleep with a suitable book is a common and commendable device The book, however, is not a matter of indifference It should not be at all in the direction of one's anxious daily occupations, nor sufficiently exciting to set up a train of thought intense enough to be itself a cause of wakefulness and, on the other hand, it must have enough interest to take the mind away from the previous one Probably nothing could be more valuable and efficient were it generally available, than music, which would, however, require a delicacy of adaptation to the individual case that would greatly interfere with its practical applicability

The prescription most frequently made for chronic insomnia, and in most cases undoubtedly the best, is that of complete rest or a vacation, recommendations more easily given than taken Absolute vacancy of mind is talked about but never artificially attained, and relief from mental activity means relief from the habitual train of thought, most probably of a depressing or anxious character It is specially difficult to obtain the proper conditions at home or among familiar surroundings

A vacation in the country, real country if it can be had, is by far the best method of getting the necessary diversion, but here also there is a choice The disturbances which drive away sleep come from within, and the occupation of the vacation must be such as will displace morbid activities by healthy ones, not intense but sufficient to predominate If the patient has nothing else to think about he will be sure to think about his troubles Black care may sit behind the horseman or beside the lounger on the hotel piazza Of course the morbid train of thought may be difficult or even impossible to displace at once, but life in the woods, with adventure enough to command the attention of the invalid in an entirely different direction, is as likely to do so as anything The psychic as well as the physical atmosphere must be changed A well-founded doubt as to whether the patient is going to find any place to sleep at all is a useful counterirritant to the harrowing dread that he may not sleep after he gets there

In cases not insane, the haunting idea which stands in the way of satisfactory sleep is likely to be the fear that it will not come, or the feeling of doubt, anxiety and despair when it is long awaited in vain Insomnia and the dread of it react to heighten each other's intensity Under ordinary circumstances it is better that all thought in regard to sleep, even a slight expectation of it, should be banished from the mind, unless of course it be so firmly believed in that the element of doubt no longer exists "Sleep, like the other gods, comes when we least expect him" When this idea has been banished a great step has been taken Suggestion, as it is mildly called, not dependent upon hypnotism and varying from the gentlest of hints to the most positive asseverations, is by no means certain of ridding the patient of this dread, and it must very often be backed up with a dose of something Patients, even when they are strongly suspicious, or even when it is acknowledged that the medicine ordered will not be a powerful one, are reluctant to have it omitted altogether and be left to their own resources

A placebo or half placebo, as some of the mild hypnotics, and even some of the others when given in very small doses, may be called, ought always to have a reputation behind it, whether deserved or not, if there is any chance of the name becoming known, lest a highly intelligent patient, as such patients are apt to be, or an officious nurse, should look it up in a medical dictionary, which for practical purposes, whatever doubts may be justifiable from a scientific point of view, should give out no uncertain sound Hence part at least of the value of lactucarium, lupulin and the hop pillow The knowledge that a powder is lying on the chimney-piece, or the assurance that a provisional order will be left on the night-nurse's book, has a tranquilizing effect highly desirable

A graduated series of powders, with sugar of milk to maintain the bulk, and enough quinin to maintain the taste, beginning with a full dose of sulphonal and ending with none of it, is a convenient way of ridding the patient of the drug habit without the disturbing apprehension consequent upon the brusque statement that he must get along as best he can without any drug

Hypnotics may be roughly divided into two classes Those which diminish the nervous irritability which keeps the patient awake, and those which distinctly, though perhaps not profoundly, narcotize the nervous centers

The most typic of the first class are the bromids, among which I have never abandoned my preference for the potassium salt as the most powerful, believing that the fear of any depressing effect of the basic element upon the heart is purely imaginary, at least in such doses as ought to be or are likely to be used in the treatment of insomnia The bromids are better given in two or three doses during the latter part of the day, and in many chronic cases through the day, than in a single large one, although in my own person the latter plan has worked well also In cases where a good deal of nervous excitability and restlessness during the day, "nervousness" par excellence is added to the insomnia, a bromization lasting a few days or a week or two is occasionally admissible The bromid of potassium, under circumstances demanding mental activity, even in considerable doses, is not a distinct hypnotic, although when given in the way I have suggested, it will allow a patient to sleep if it does not make him do so I think the same is true of its action when given with narcotics that are liable by themselves to produce an excitant effect Opium or cannabis indica may be converted by it from an excitant to a sedative I have taken a single dose of more than one hundred grains of bromid for the purpose of having its effect on my retinal circulation examined by one of my ophthalmic colleagues and then made my hospital visit without the consciousness of anything unusual in my mental condition, or any remarkable degree of somnolence perceptible, so far as I was aware, to my internes. Yet such a dose in the evening would have given me a quiet night if undisturbed, and I have no doubt, if I could have yielded to it, would have done the same thing in the daytime. Opium, with its alkaloid, morphin, the first of narcotics, notwithstanding its undoubted power, its traditional *vis dormitiva* and the fact that sleep usually follows a sufficient dose after a varying interval, is not a desirable hypnotic in the strict sense of the word. In small doses it is untrustworthy, in many persons having the reverse of the desired effect, while in large ones its disadvantages far outweigh its benefits. Where, however, the want of sleep is dependent upon pain, the case is entirely different. It would be peculiarly dangerous in a case of neurasthenia, and I can hardly think of circumstances which would justify its use in a case of pure insomnia. Cannabis indica is hardly a hypnotic at all alone or at least takes a long time to produce real sleep, but often does well in combination with bromid. I have used it occasionally alone with good effect when the dreams were depressing or annoying with the result, or coincidence, of their changing their character for the better.

Chloral, I think, has gone largely out of use. Introduced as an anesthetic, then freely used in quite large doses as a hypnotic, it has been to a great extent abandoned for safer if less powerful drugs, and I judge from the catalogues of drugs given me by patients that my opinion of its danger and uncertainty is shared by other physicians, though under the misnomer of "bromidia," which seems to obscure even in the professional mind the exact character of the preparation, it often appears upon the list of the narcotic "fiend." Of the immense number of other hypnotics of recent introduction, mostly of coal-tar or alcoholic origin, each of which has in turn been brought forward as agreeable, certain and free from danger or disagreeable after effects, I will only mention three.

I do not believe that the hypnotic is yet discovered or ever will be, which is at once trustworthy as producing the desired result and incapable of producing any unpleasant after-effects. Sulphonal comes as near to that standard as any drug with which I am acquainted, and used with care is little likely to do harm except that which attaches to any habit of the kind or dependence upon artificial aids to sleep. Nearly all, perhaps all, the cases, which, considering its widespread use, are not numerous, where dangerous conditions as evidenced either by hematoporphyrinuria or by long continued subnarcotic effects have arisen, are the results either of doses singly too large or administered too close together, not allowing the blood to be free from it in the interval. The same remark might undoubtedly be made of other hypnotics. Its correctness may be shown by reference to the discussion at the Montreal meeting.

The tardiness and permanency of the action of sulphonal, undoubtedly a consequence of its difficult solubility and slow absorption, can not be looked upon as a disadvantage when properly allowed for. A second good night without a renewal of the dose, is by no means an exceptional occurrence even when the dose has not been excessive. It seldom fails in the dose of one gram if given well dissolved and early enough in the evening. In dose of thirty centigrams or less it is somewhat of a semiplacebo. The full dose should not be repeated on the same night, and it should not be given continuously, that is upon successive nights for any length of time. If its use is to be prolonged beyond an emergency period of four or five days the interval should be more than forty eight hours.

Trional is more soluble and rapid in its action but seems to enjoy most of the advantages of sulphonal except the important one of having its effect last over two nights.

The peculiarities of each may be best utilized by reserving the sulphonal for a patient who has not slept for several nights and who, it is pretty clear, is not going to get a good night unassisted, so that the medicine may be given early, namely at 6 or 7 P.M., in order that its effect may be developed at the regular time for going to sleep. Trional, on the other hand, may be kept for a case where sleep is likely to be well begun, but where it is likely to be broken off very early in the night and not renewed without a hypnotic. It is the preferable of the two for a provisional prescription, since the dose may be given at any time in the night necessary and the effect will not be too far distant. Paraldehyde is a rapidly acting and safe narcotic, probably coming much closer in its mode of action to alcohol than the coal tar preparations. I have seen a case closely resembling a mild delirium tremens from the continued use of the drug in the hands of a patient not under professional care. The extremely disagreeable taste and smell may or may not be an advantage according to circumstances.

THE CONTINUOUS USE OF DIGITALIN IN THE VASOMOTOR AND CARDIAC LESIONS OF SENILITY

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

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Senility embraces that period of life during which one or more of the functions, as well as nutritional metamorphoses, when compared with the manifestations of the vital unit possessed by the individual are recognized to be prematurely waning, and thus many are the instances of men and women, who, being endowed with vital energy sufficient to enroll them among the normal activities of advanced being, remain more or less disabled or invalided because of this premature failure on the part of some special organ or system to adequately discharge function. This retrograde process has an insidious origin, manifesting itself much earlier in life than we are prone to imagine, and is primarily operative, as a rule, in the vasomotor system. This *great* system has *not*, as yet, received the attentive study it should, and its direct relationship to functional activity, whether it be of brain or special sense or organ, is such that it is not an exaggeration to state that life itself depends thereon.

Active nutrition, then in the fullest sense of the term, is that condition which determines the normal relationship of function to vital u[illegible] is [illegible]ately associated with the perfect ful[illegible]tor function, because the distribut[illegible] cell, organ and system is dirc *physiologic integrity* of this *nervo-sanguineous* system The first physiologic symptoms of senility will almost always be found with, some portion of the vasomotor system, and that which is most objective consists in preternatural fullness of the superficial veins This condition is indicative of far more advanced, although not visible, alteration of the minuter radicals, both of the arterioles and venules, and when present for some length of time, is associated with the symptoms of diminished and impaired function, therefore, we have slight defects in intellection, the details of everyday life are forgotten, and the victim finds it necessary to utilize the "memorandum tablet," instead of relying upon memory Sleep is less refreshing and is interrupted by slight insomnia Some failure in vision and obtunding of hearing co-exist, while respiration is habitually augmented in rate, and the ordinary activities of life, formerly free from any sense of discomfort, are associated with more or less dyspnea The digestive functions are all less active than before, and the disturbances especially noticeable are those accompanying passive hyperemia and the consequent diminished absorption The disturbances of hepatic functions manifest themselves in paroxysmal headache and pruritus, the itching of the nose is especially noticeable, and is often contemporaneously present with similar annoyances, located in areas of the back and lower extremities Emaciation, while not marked, is pronounced, and the usual rotundity characteristic of the vigor of life, gives place to the well-known diminution in weight and wrinkling of the skin

The function of the sphincters, and especially the vesical, is markedly impaired and the passive hyperemia of the kidney gives expression to its existence by albuminuria and the shedding of casts The group of symptoms just enumerated, if the condition is well advanced, frequently assumes the clinical picture of organic disease, and thus has the writer seen what he erroneously believed to be senile softening of the brain, presenting typical symptoms, as demonstrated by a failure to recognize the members of family, inability to realize living at home, and re-living boyhood life, totally disappear under the treatment to be described, a fact demonstrating that the failure of *functional activity* may be due, under these conditions, *not* to the death of the cell, but the absence of nutriment necessary to the maintenance of its vital phenomena Of the cardiac conditions we have either fatty degeneration of the myocardium itself, cloudy swelling, or some type of retrograde change, either uncomplicated, which is exceedingly rare, or associated with gross lesions in the radicals and larger arteries Indeed, the changes in the cardiac muscle are, in ninety-nine instances of the hundred, *secondary* to a *primary* lesion of the peripheral arterial system, this fact is worthy of especial emphasis and is to be considered in formulating a prognosis, other things being equal, of any given instance Elsewhere will some facts associated with the physiology of the circulation be elaborated, and it will suffice in this connection to simply state that, in senility, the propelling power of the arterial system being diminished, by reason of its vasomotor factors, but capable of restoration to the percentage longevity of the vital unit involved, will result in the establishment of lost equilibrium The symptoms associated with what has hitherto been considered "senile heart" are, habitually augmented rate, diminution of resistance and edema of the extremities, of course, with these we have the bronchial disturbances, the falsely called "asthma," and, in advanced cases, various forms of dropsy The treatment of these cases with digitalis, alcohol, strychnia, strophanthus and nitroglycerin finds its limit of usefulness far down the scale of possible achievement, and the premature death of all such, so afflicted, has been the outcome of *secundum artem* methods

It is taught, that in the condition just described, arterial tension is increased and, therefore, digitalis should not be employed, because of producing ruptures of the brittle and overfull arteries, and otherwise endangering the life of the sufferer Careful study demonstrates that when the venous side of the circulation is tortuous and distended with blood, the arterial possesses *less* than its normal quantity; and while the aortic valves close with pronounced force, instead of being the result of *arterial tension*, this is actually dependent upon the *weight* of the column of blood, which not being propelled by what may be considered vermicular contraction, fills the non-elastic vessel as though it were an iron pipe, therefore, we have operative *weight* and not active force, and consequently *diminished* and not augmented arterial tension What obtains in the aorta is an expression of the whole arterial vasomotor system and, consequently, we have this disturbed circulatory equilibrium, characterized by distended veins and relatively empty arteries The cerebral phenomena so common in this condition manifest themselves in their worst type, by symptoms suggestive of apoplectic processes, and not uncommonly does the patient complain of localized numbness which, after a shorter or longer duration, culminates in confusion of thought, partial loss of consciousness, somnolency, confusion, loss of speech and transient paralysis of groups of muscles This condition must not be confounded with true apoplexy, by which is meant rupture of a large arterial trunk, such as the middle meningeal or striate artery, because they are dependent upon either transient *ischemia*, that is, the terminal vessels fail to transmit blood to the part on account of the lack of propelling power, or to actual ruptures of venous radicals, directly due to the overdistention characteristic of the venous side

A typical clinical illustration of an advanced case of senile cardio-vasomotor disease is that of an individual propped in a chair and completely disabled For years nearly all of the symptoms briefly described have been gradually becoming more numerous and severe, until now he is distended with anasarca, the lower extremities ruptured and oozing serum freely, while the skin is red and glossy and the seat of ulceration Respiration is imperfectly accomplished with constant effort, and is shallow and rapid, and the want of breath so marked that only a few words and disconnected sentences can be uttered at a time The bronchial area is edematous and the lungs the seat of moist râles Cough is persistent and exhausting, and sleep only indulged in for a few minutes at a time The kidneys are almost passive, and only from two to four ounces of urine are secreted in the twenty four hours Exhaustion and distress are depicted on the countenance, but to the patient are not so keenly appreciable because of a partial obtunding of the brain The cases from which this picture is drawn were the failures resulting from the *secundum artem* treatment, above mentioned, and although it is realized that the statement will be doubted, it is asserted that several who, years ago, were advanced to the stage depicted, are today free from all of these phenomena and able to be about as old, but comfortable seniles The continuous use of "digitalin" in doses sufficiently large to restore lost circulatory equilibrium, is the treatment which brought about these truly wonderful results

A few words about "digitalin" Unfortunately, this term is applied to a product in the shops which represents a complex mass or glucoside composed of one or more of the following active principles contained in crude digitalis

1, digitalein, a glucoside occurring as a white amorphous bitter powder, soluble in water and alcohol, 2, digitalin, a yellowish powder, soluble in alcohol, chloroform and 2000 parts of water, 3, digitalin German, really digitalein and an alleged inert crystallin derivative, known as digitin (this latter in a very small percentage), 4, digitonine, 5, digitalin kiliani, resolvable by treatment with acids into digitalose and digitaligenin, 6, digitalin crystallin, soluble in alcohol and ether, 7, digitalin purified, which contains, also, digitalein, digitonin and digitalin kiliani, 8, digitonin, and 9, digitoxin

When a prescription is ordered for "digitalin," the question may well be asked, what is supplied? Each of these derivatives possesses especial therapeutic power, which it is not the province of this contribution to consider, therefore, with simply indicating why there is such diversity of opinion entertained concerning the value of so called digitalin, attention is directed to the fact that that derivative, the use of which this paper is the outcome, is a so called digitalin, known as *Digitalin German Merck None other will effect the results set forth* Its dose is from one-tenth to one-half grain, from three to six times daily, as the severity of case requires

If instances of advanced disease are encountered, and dissolution threatens when first seen, one-half a grain is safely exhibited hypodermically, and repeated in one hour, after that, two grains additional are administered by mouth, in quarter grain doses every two hours, should the emergency require This bold plan has, in the writer's experience, several times averted impending death, and enabled restoration practicable, When the circulation has been restored by two or three days' treatment, the advantage is maintained by just sufficient of the remedy to secure permanent results Skillfully used, this is maintained, as the title implies, continuously A gentleman who, last October, was in the condition described and dying, has taken daily ever since, two grains a day He now walks to my office, a distance of more than one mile, and returns to his home without any inconvenience whatever After observing the effects of this treatment for years, it can be confidently asserted that *no* hypertrophy of the heart follows, also, that sclerosis of the arteries, not an expression of calcareous infiltration or atheroma, but what may be viewed as an anchylosis, so to speak, frequently disappears

This is due to the fact that the contraction and expansion essential to the calibrating function of the arteries being restored as a result of the action of "digitalin," normal functional activity and, consequently nutrition of the coats is instituted, just as a stiffened articulation, by normal movements loses its rigidity, does an artery, similarly affected The treatment must be practically continuous, because the senile changes having already become permanent are a constantly acting factor in the onward march It must therefore be constantly held in abeyance and it can be just as long a time as the life with which the vital unit of the individual was originally endowed

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RECOGNITION OF TEMPERAMENT A FACTOR TO THE SELECTION OF REMEDIES AND THEIR DOSAGE IN DISEASE

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo June 7-10 1898

BY J E MOSES, M D

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Temperament may be defined as that quality, made manifest by the physical and mental characteristics of man There are four distinct types of temperament The nervous, the sanguine, the bilious, and the lymphatic To these I will apply the term primary, because they are the base of all the combinations or compounds met with in the majority of people A pure type of any one temperament is not often found, and when it is the characteristics are very marked For the purpose of my paper it is necessary that I describe each temperament separately, and then take up the various compounds as they present themselves Before taking up this description, I would state that I shall differ from all the authors that I have been able to consult, in that I shall consider, not only the skin, the eyes, the hair, and the contour of the face as they do, but also the brain, the respiratory apparatus, the heart, liver, and digestive organs, as elements entering into the type or temperament under consideration

Hippocrates and his followers claimed that the difference between men lay chiefly in the color of the eyes, hair and complexion, and that these could be sorted into four groups, in which all men might be placed In the original idea or arrangement of temperament the mental qualities and traits of character were not considered, thereby losing sight of a very necessary factor in the recognition of an individual A number of men have given this subject some consideration, and all have, in my humble opinion, fallen into the same error—overlooking the proportionate, relative sizes of the various organs of the body as elements of temperament, failing in this, they have been unable to present any system or plan that appealed in any measure to the medical profession as a possible aid in the treatment of disease That these temperaments are easily recognized, when of a single type, is very true, but when in combinations of two or more, they become complex and difficult to master As to a description of the temperaments, I know of no better than that formulated by Dr Alex Steward of Edinburgh, in his able work, entitled "Our Temperaments," and adding thereto certain ideas of my own which, I believe, materially influence the recognition of the characteristics of each

THE NERVOUS TEMPERAMENT,

as the name would imply, is composed of a preponderance of nerve structure and mechanical velocity of action

Physical characteristics —Light brown hair grey eyes pale, clear complexion, face tapering from a high forehead and broad supra-orbital region to a narrow chin, the nose narrow trunk slight a corpulent, often tall The chest is small, the respiratory apparatus is proportionately so, as are also the digestive and other organs of the body In other words, the nervous is in excess, proportionately, to all other elements

Mental characteristics—This temperament is impulsive, animated, quick at conclusions, excitable, readily provoked and as readily reconciled, imaginative, sensitive, fastidious, irresolute, persistent after final decisions, having great capacity for work, and will not give in even when in danger of physical exhaustion Intellectual and muscular exercises are enjoyed, happiness, from whatever source, pleases the senses, and the mind is enriched by travel, literature, or art The speech is characteristic, being rapid—often exceedingly so—frequently interrogatory and undecided The nerve energy in this type is great, and is spent without regard to results

THE SANGUINE TEMPERAMENT

This is probably the most happy type of humanity, and this temperament probably enters into as many compounds as all others combined The blending of this temperament with either of the others, or with any two of them, only adds vim and vivacity to the compound

Physical characteristics—Red or reddish hair, blue eyes, and a more or less pronounced florid complexion The face is usually square, nose, broad and alæ outspread, neck, usually short, but some are more moderate in length, build, thick set, chest, large and expansive, indicative of large respiratory organs and a large heart The respiratory effort is full and deep, affording immense oxygenating capacity, therefore a full red glow to the exposed cutaneous surfaces The abdominal organs are proportionately smaller when compared with those of the chest, though larger than those of the nervous temperament

The mental characteristics—Are impulsive, buoyant and cheerful They draw favorable conclusions without thought, are excitable, readily provoked, readily reconciled, emotional and passionate They are not enduring in work, but muscular exercises are preferred to intellectual ones They are equally happy in the pursuit of small things, as they are in the greater ones They are more happy in the pursuit than in the possession In speech they are usually firm and outspoken, but are not often minutely informed Every respiratory effort seems to intoxicate them, so they look only at the bright side of life, when left to themselves They are prone to undervalue danger of all kinds, only to rue it when too late

THE BILIOUS TEMPERAMENT

This may be termed the intense temperament, which knows no obstacle too great, nor effort too laborious to attain an end

Physical characteristics—Black hair, black or very dark brown eyes, and dark or a pale olive color complexion The face is square, nose outspread, mouth, square cut, indicative of firmness and strength of character, build, usually thick-set The chest and abdomen are well balanced and possibly slightly larger liver, the glycogonic function being unusually active

Mental characteristics—This type is not impulsive, but serious conclusions are arrived at only after due deliberation, passionate, jealous, revengeful, unscrupulous when not properly trained In business cool and wary, eager, earnest and persistent Business or pursuit of worldly gain preferred to muscular or intellectual labor, but they are able to excel in all They are happy in the pursuit of wealth or power, and also in their family relations, if not disturbed They are decided, always ready, and well-informed

THE LYMPHATIC TEMPERAMENT

This type of humanity is characterized by its absence of hurry, and its great appreciation of animal comfort

Physical characteristics—The hair may be fair or light brown, flaxen, sandy-white and thin, eyes, brown or light hazel, grey, sometimes giving the impression of a green color The corneal area is smaller, with a corresponding greater sclerotic exposure Complexion, colorless, dense or opaque The face, square, rather inclined to heavy jaws, nose, outspread, neck, short, build thick-set tending to corpulency The abdominal cavity is larger, and the digestive organs proportionately so, they are usually large eaters, tending to gluttony These people live to eat, and do not eat to live

The respiratory effort is usually shallow, the chest flat, and its expansive power somewhat limited

MENTAL CHARACTERISTICS

These people are not impulsive, but slow, and the face shows a heavy expression They come to conclusions by degrees They are not excitable nor readily provoked, they forgive but never forget They possess a certain amount of persistence, but lack ardor They are somewhat enduring in work but plodding in business They enjoy personal comfort and indulgence The speech is slow and deliberate, and when trained they are well informed Their greatest effort is in the direction of food and rest

Having carefully considered the four primary temperaments, we find that in the first type, the brain is predominant; in the second, the heart and lungs are in excess, in the third we find the chest and abdomen well balanced, with marked hepatic activity, giving strength and intensity to its individuality, in the fourth, abdominal organs, with the natural result attending—a disposition to hibernation The various compound temperaments are but modifications of the primary ones, by the union of two or more temperaments, and are indeed often difficult of recognition But this may be materially overcome by a careful examination or inspection of the body, and noting the relative size, and development of the patient, taking this into consideration with the contour of the face, the head the color of the eyes and hair, with the complexion, the subject would then be easily classed, as to the compound to which it belonged It is true, physical training and environment affect temperament and tend to modify it, but not enough so to destroy its identity

The compounds most frequently met with in this country are the nervo-sanguine, the sanguino-bilious, and sanguino-bilious with a strong nervous infusion Occasionally we find combinations of the nervo lymphatic, and also all the temperaments combined, giving us a people, the one, a constant care for the physician, while the other is a well balanced individual The first three compounds give our American people their characteristic push, speed and energy, placing them in the fore-front for physical and intellectual endurance and capacity It is not in the province of my paper to discuss these compounds in detail, but rather to apply the elements that we have furnished to a practical use in medicine

To the surgeon this knowledge is necessary, that he may recognize the degree of shock sustained by reason of injury, compared with the recuperative or reactionary power of the patient, enabling him thereby to prognosticate probable results more perfectly In his operative work he may be able to judge with some degree of certainty as to possible chance of success In anesthesia, it will indicate the element best calculated to support the patient during the trying ordeal, and which of the anesthetics offer the best results With the general practitioner it is often a question as to what complications may arise, and wherein lies the direction of danger In his dealing with the very young he may anticipate a cerebral complication, by recognizing the peculiarity of the temperament In another he may expect pulmonary or hepatic involvement and so on until every element of temperament is exhausted To the obstetrician, this knowledge is of incalculable benefit, for by a thorough knowledge of his patient, he will be enabled by suggestion, to control the expulsive effort and direct the parturient forces, so that the patient will be capable of utilizing all her energies, both nervous and muscular, to her own ultimate safety and good To the neurologist it suggests the best method of overcoming the various neuroses and reflexes, and by a proper direction of remedial agents, reconstructive and eliminative, to restore tone and vigor to the overwhelmed nervous organism To the dermatologist it affords like relief, estimating as he does the possible nerve involvement or digestive disturbance likely to exist in the premises To the oculist it is of material importance as by a prompt recognition of temperament he may the better determine the source of ocular disturbances

These suggestions will serve to give the student an idea that he may enlarge on, so that still greater benefits may accrue It seems reasonable to me that a nervous temperament would be more susceptible to affections involving the brain, in the form of congestion, anemias, etc , that would be disastrous In these people you would naturally expect various forms of neuralgias, due to the cerebal disturbances existing In the sanguine temperament the large respiratory apparatus, to properly functionate, must have at any one time a larger blood supply, than other organs, hence the greater danger from congestions or trauma from any cause This is the temperament (and compounds having this temperament in the ascendancy) that gives us the greater number of pulmonary tuberculous patients and these are people who suffer the most frequently from fatal pneumonia and bronchial affections, the bilious temperament being more frequently assailed by intermittent and remittent fevers They are not a fruitful source to the physician, for they are usually hardy and resist infection with great vigor The lymphatic temperament, by reason of its construction, is frequently the victim of hypochondriasis and hepatic and intestinal torpor, portal congestion seems almost a normal condition Fermentative dyspepsia, hepatic concretions, and catarrhal jaundice are the conditions most frequently met in this people Cardiac weakness and functional derangements are a common failure and also rheumatism and gout due to faulty elimination This temperament is most prone to sudden heart failure during acute attacks, by reason of innervation

The various compounds are modified in their tendencies, and they are the ones that give us the greater trouble and perplexity This rule may be applied to all, whichever temperament predominates in that direction will afflictions tend I believe this to be argument enough for the close observer Many will recall instances such as I have described This does not in any manner conflict with the germ theory of disease, but it does explain why some enjoy immunity from infection, while others do not

As to remedies —The nervous type stands cerebral excitants poorly because of a possible irritant congestive condition resulting, while cerebral sedatives and arterial depressants act kindly even in decided doses But when suffering from shock, such elements as strychnia, glonoin and strophanthus are strongly indicated to hasten circulatory distribution and buoy the respiratory and cardiac action The sanguine temperament is inclined to favor arterial stimulants when depression exists, and depressants in active disease conditions, with such elements as will favor the maintenance of the fluidity of the blood, also elements that control respiratory and cardiac effort The cardiac stimulants, that, have a marked effect on the peripheral circulation are well borne, but after inflammatory processes due regard must be given to deobstruants and alteratives The bilious temperament is best treated by an exhibition of antispasmodics, motor depressants and arterial sedatives Motor excitants are decidedly contraindicated in acute conditions, the indications are for general sedatives, particularly muscular and glandular sedatives The glycogenic function is most active in this temperament The lymphatic subject must be favored by catharsis, to relieve common tendency to portal congestion, and autotoxemia, but especial attention is necessary to combat the tendency to cardiac failure and cerebral stimulants are almost always indicated particularly of the strychnia class, favoring as they do the support of the cardiac and respiratory apparatus

The dosage of these remedies depends on the condition of the patient, if in the active or acute stage, pronounced doses of the remedies that are opposed to the condition existing, if passive, then small doses to give impetus by graduated stimulation of the organs involved This holds good in all the compounds as well The fact necessary to be borne in mind is, that what type of temperament is in the ascendancy, or predominates, in that line or direction will the danger lie, and the remedy and dose must be applied to these conditions If we would add to the celebrated Von Haller law, for the proving of remedies (or substances used as medicines) a knowledge of temperament we would be able to get more positive and perfect knowledge of their physiologic and toxicologic actions

In conclusion, I wish to acknowledge my indebtedness to the excellent work of Alexander Steward of Edinburgh, from which I have taken some of the descriptions verbatim, because of their terseness and clearness in the primary types, for which I wish to give due credit Some of his suggestions have but strengthened my own conclusions that a proper recognition of the peculiarities of people, both mental and physical which we call temperament, is at least very serviceable if not a factor, in the proper and successful practice of medicine Failing in this we shall but obstruct the way to the placing of our beloved profession in a line to become a positive science

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Let us have a Department of Public Health!

IRITIS SPONGIOSA

Presented to the Section on Ophthalmology, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June 7-10 1898

BY ADELINE E PORTMAN, M D
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Prior to 1870 almost nothing is found giving more than two forms or divisions of iritis, it being classed either as syphilitic or rheumatic, there being only three forms of exudations given in the so-called parenchymatous, namely, serous, plastic and suppurative, the clinical history, cause, treatment and termination being distinct in the type

Serous —Develops slowly, no pain, normal pupil or slightly dilated, little or no injection of vessels and long duration, usually shows punctate deposit on posterior surface of cornea, aqueous humor cloudy, ends without adhesions or serious effects Treatment expectant, hygienic and constitutional, according to causes found

Plastic —Pain pronounced, onset rapid, pain referred to frontal and other branches of fifth pair, worse at night, circumcorneal injection, photophobia and lachrymation, pupil contracted, iris discolored and engorged, may be nodules upon its surface, exudation of lymph and iritic adhesions follow Treatment antiphlogistics, mydriatics and sometimes mercury

Suppurative —Iris very much swollen, yellowish tinge, and formation of new vessels in its substance, hypopyon forms, pain and inflammation symptoms much the same as in plastic Prognosis usually good

Though quite distinct types, these three forms may merge into one another, giving rise to seroplastic-plastico suppurative, though rarely, if ever, a sero-suppurative form Each form may pass over to the ciliary body and choroid, making other combinations and forms of disease

After 1870, a few cases of a form of iritis were reported, that from the character of the exudate were called iritis spongiosa, but no full description being found in any text-book up to 1880, Dr Swan M Burnett of Washington, D C after having a very severe case under his care, took pains to collect the cases then reported—less than forty in all—to give, if necessary, for future guidance of others, a name to so peculiar a form Schmidt is the first to have mentioned it, but under the head of simple iritis, of which Wecker makes mere mention in 1879

The clinical picture is pain, which, at its height, is as acute as in the plastic form Up to the time the exudate appears, it is not so intense, but after the exudate begins, till absorption takes place it is very severe The sudden relief from pain when absorption begins is a marked pecularity of this form of iritis Exudation begins with marked symptoms of irritation, in many cases very suddenly At one visit anterior chamber is clear, at the next, is filled with a gray mass of exudate In others it is extruded more slowly, usually begins in or below pupillary space and in most cases fills anterior chamber Very likely absorption had begun in cases said to be only partly filled Absorption takes place with varying rapidity, generally five to eighteen days elapsing before all traces have disappeared The course of absorption is very peculiar, and characteristic It begins always at the periphery, and the mass gradually diminishes from all sides equally, the pupil being last to clear

As to the character of the exudation, it has been found on examination in its earlier condition, fibrous Knapp, who first examined it, says "It consists of a dense network of very delicate fibrils inclosing white and red blood corpuscles and of a finely granular substance" His opinion is that when the substance is uniformly semitransparent (hyaline, gelatinous, like a dislocated lens) it probably consists exclusively of coagulated fibrin, if gray, or whitish gray, white corpuscles, which collected in clusters appear like whitish dots, yellow or yellowish green tinge indicates red blood corpuscles Alt says "The exudation has two well-defined parts, the one perfectly homogeneous, like the gelatinous exudation, the other, lens-like in shape, consists of a net-work of exceedingly fine threads of fibrin, the meshes of which were filled with exudation The two layers are the two stages of exudation so-called, at first spongy, then gelatinous" The unchanged appearance or nearly so of the iris precludes the possibility of extravasation of blood into its tissues, the iris having its normal luster, and as soon as the attack passes it is seldom discolored or changed in appearance, which would not be the case if the blood had been extruded

Diagnosis As soon as the exudate appears there is no difficulty in deciding that we have to do with spongy irritis The difficulty is not to confound it with diffuse keratitis or a lens dislocated into the anterior chamber The excessive chemosis is not present in diffuse keratitis, and oblique light shows epithelium intact When absorption begins, the sharply defined edge of the mass appears so exactly like a luxated lens that only a magnifying glass and oblique light quickly shows the error A fibrous mass in some of its parts, lack of regular outline, and peculiar mode of absorption, proves iritis spongiosa The typic form leaves iris free and normal, but it may be joined to plastic form and adhesions result No cases united to serous or suppurative forms is known As to etiology, it may arise from any of the causes of iritis—traumatic, rheumatic or syphilitic The great majority of cases reported were males

Prognosis in typic form good Treatment as in plastic antiphilogistics, mydriatics, anodynes and hot applications Absorption is naturally so rapid that mercury is not of benefit unless indicated by some dyscrasia The last case seen will give a perfect picture and history of cases in general

I J , colored, female, seen first Jan 9, 1898 Exudation in anterior chamber of left eye, down and outward from pupil, reaching slightly beyond pupil, which was small and adherent First noted trouble in the eye ten days before, pain and usual symptoms of iritis No history of syphilis January 11, under atropin, pupil dilated somewhat, but irregularly, exudate about the same January 12, the edge of exudate, which before had been undefined, is today sharply defined at the upper margin, the anterior chamber above it being clear and showing the pupil enlarged, but still some adhesions January 13, only a small quantity of exudate downward and outward January 14, no trace of exudate, pupil larger, no pain January 16, eye clear and vision about the same as before the attack This is as nearly as may be a typic case, though the exudate may be much longer in being absorbed This type, when once seen, will not be forgotten, though from any text book it has been my fortune to examine, one may not get even an idea of its real appearance

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722, 18th Street, N W

A NEW PERIMETER

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo, June 7 10 1898

BY CHARLES H WILLIAMS, M D,
BOSTON MASS

In testing the field of vision it is desirable to have the same illumination of the test object in all parts of the field, and to be able to diminish the intensity of this illumination by a known and measured amount when we wish to test the field for white or colors in cases of beginning atrophy or other conditions where there is a marked difference in the extent or shape of the field of vision when tested with a full and with a diminished amount of light This seems to be best accomplished by making the tests in a dark room and using two incandescent electric lights of one candle power each for the test object and the fixation point A Förster's perimeter with a broad semicircular arc of hard rubber is arranged so that one lamp is placed in the center of the arc and about an inch from it, to be used as the point of fixation Slides are made so that pieces of ground glass, London smoke glass or diaphragms with openings of various sizes and shapes can be inserted in front of this lamp The other lamp is arranged in a similar way and can be moved back and forth from one end of the arc to the other, its motion being controlled by a small electric motor mounted on the perimeter and geared so that the test lamp is moved on the arc with the desired speed The motion of this lamp can be reversed at any time by reversing the polarity of the armature of the motor by means of a switch held in the examiner's hand, in this way a motion back and forth can be obtained for the test object without going near the perimeter or without taking the examiner's gaze off the patient, thus making sure that the patient does not alter the direction of his eyes during the examination

SOME SEVERE CASES OF TOBACCO AND QUININ AMBLYOPIA

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

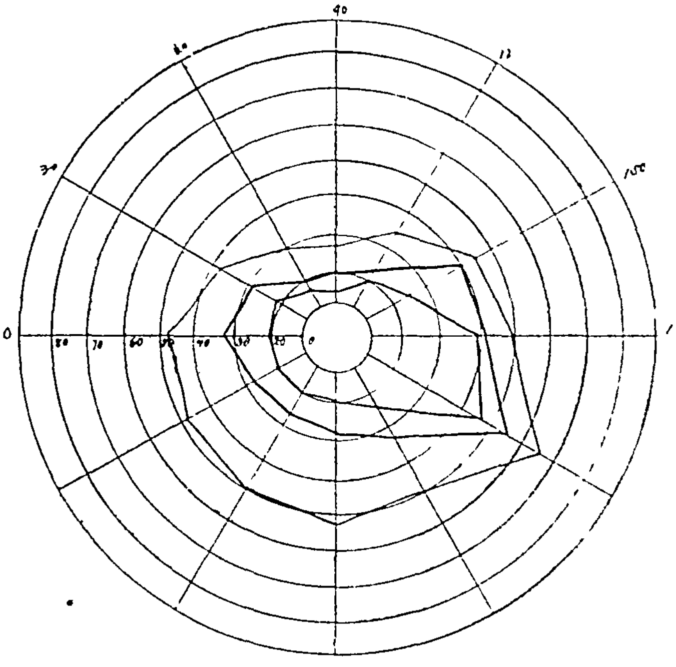
BY E C ELLETT, M D
Ophthalmic and Aural Surgeon to St Joseph's Hospital The Children's Home and the Shelby County Poor and Insane Asylum formerly House Surgeon in Wills Eye Hospital Philadelphia
MEMPHIS TENN

In presenting to your notice any observations on the subject of the toxic amblyopias, the recent exhaustive works of Wood and DeSchweinitz render references to the history and literature of the subject entirely superfluous It is from a study of the work of these gentlemen that I am enabled to appreciate the unusual features in the few cases which I wish to report, and I present them solely for the reason that they do exhibit some points a little out of the ordinary

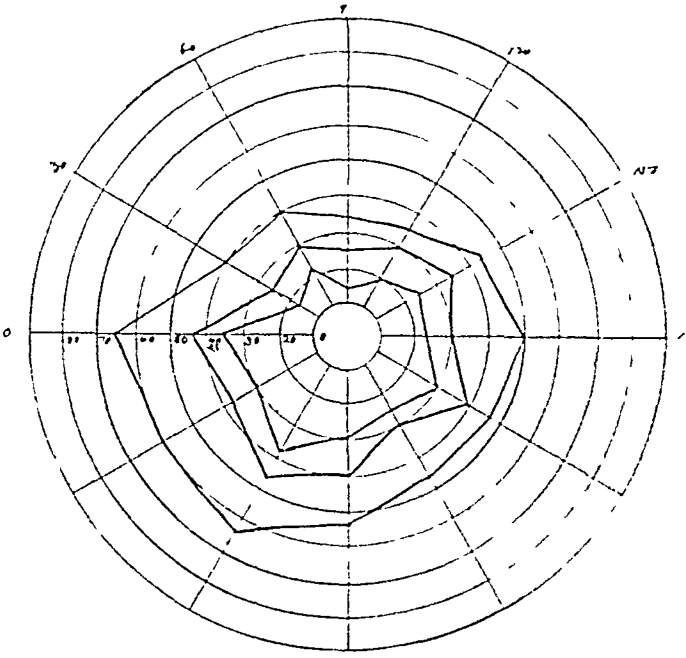
The first case was a young man of 26, whom I saw at the request of his physician, Dr Thomas Henderson, Feb 28, 1894 Since August, 1893, he had not been able to see to read, though his vision began to fail some months prior to that time Since 12 or 13 years old he has been addicted to the use, or rather the abuse, of cigarettes, consuming from ten to forty a day, and at the time he came to me he was smoking from thirty to forty a day It was his habit to awaken frequently during the night, on account of extreme nervousness, and to smoke cigarettes whenever he awoke For six years he had been a steady drinker, beginning with beer, but for the three years preceding my examination he had been more addicted to whisky, which he said he was stopping He was the picture of an alcoholic, extremely nervous and tremulous, his person and attire saturated with the fumes of tobacco and alcohol, and he often would suddenly and causelessly burst into tears

The pupils were equal and normal, and vision was 6/200 in each eye Very unsatisfactory perimetry showed no contraction of the fields and no scotoma Of this I could not be sure, as his general condition made this part of the examination very difficult, he answering rapidly and carelessly in his desire to have the ordeal terminated The ophthalmoscope showed whiteness and cupping of the lower temporal quadrant of each nerve, with veiling of the nasal edges, and the vessels were of normal size He would not consent to undergo treatment, and died of acute tuberculosis the following summer An autopsy was not obtained

The second case was that of a medical man, aged 28, whom I saw on Oct 6, 1896 His vision has been failing since April of that year, and was reduced to 20/200 in the right eye and 3/200 in the left. He read J x with difficulty, and had been compelled to relinquish a position as quiz master in a medical school on account of his impaired sight and his usefulness as a practitioner was greatly curtailed Since 12 years old he had been a smoker, at first cigarettes, but at the age of 21 he began to smoke cigars, and smoked as **many as** twelve or fifteen a



Right Field of vision of Dr W, Feb 3, 1898



Left Field of vision of Dr W Feb 3 1898

day At the time of his visit to me he was smoking about half this number For several years he has been in the habit of drinking six or eight glasses of beer a day His physical condition, except for his vision, was very good I found the same ophthalmoscopic picture as in the first case, whiteness of the lower temporal quadrant of each nerve head, the rest of the disc being a dirty red, and the vessels of normal size The pupils were normal and the perimeter showed a central relative scotoma in each eye He was advised of the nature of his trouble, told to stop both tobacco and alcohol, and was given 1/48 of a grain of corrosive sublimate and five grains of iodid of potash three times a day, and later 1/20 grain of strychnia in addition He stopped smoking and has not touched tobacco since He fought it out through a few restless days and nights and the battle was won Stopping his beer did not inconvenience him any His progress was steady, but slow October 11, O D 20/100 p O S 5/200, Nov 2, O D 20/100 O S 8/200, November 12, O D 20 100 O S 20 200, Jan 3, 1897, O D 20/70 O S 20/100, February 17, O D 20/50 O S 20/70, and he could read J i with O D and J ii with O S About March 1, 1897, he stopped treatment of his own accord, but continued to improve May 20, 1897, O D 15/20 p O S 15/20 p, could read J i fluently with each eye He now does not smoke, but drinks a little beer His vision in February, 1898, was 15/20 p, the ophthalmoscope about as at first and his fields as shown

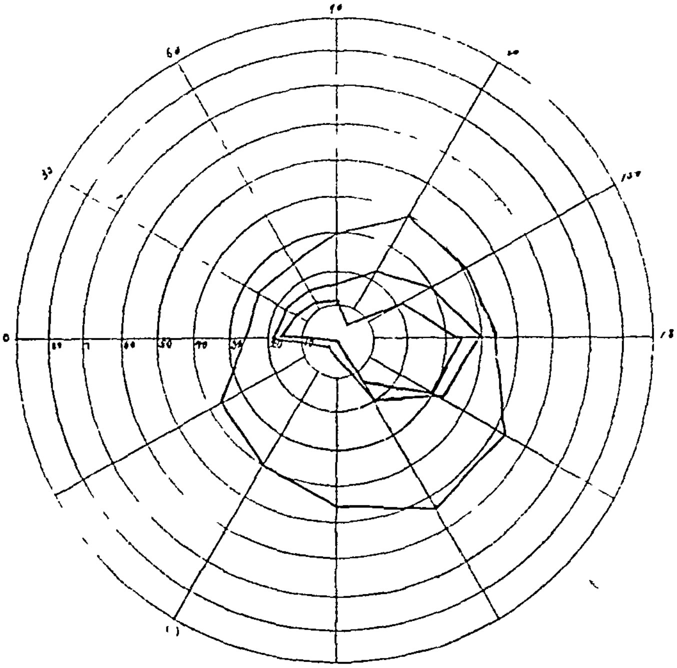
These two cases are what we must call alcohol-tobacco amblyopia, since in neither was the abuse confined to one of these substances, and we can do but little more than speculate as to the true cause of the symptoms in each case The description of the condition which Uthoff gives as being found in the majority of his 1000 cases fits these two exactly, pathologic whiteness of the temporal half of the optic papilla (papillo macular bundle) and occasionally haziness of the nerve head or hyperemia of its surface, so that we may put them down as typic cases, so far as the ophthalmoscopic appearances went

The first unusual feature is the youth of both of these patients, 26 and 28 De Schweinitz says they are exceedingly uncommon before the 35th year and Wood puts it down as rare under 40 In over 300 cases quoted by these gentlemen in which the age was given, only ten were under 30 years old Though only 26 years old, my first patient had been a cigarette fiend for thirteen years, which is about the length of time necessary to produce the condition of tobacco amblyopia The second had also used tobacco for fifteen years, but cigars for only six

Another point is the extreme, and in the second case, unequal, reduction of vision In thirty-five cases Uthoff found 6/200 the lowest point to which vision was reduced, and 1/40 (or 6/240) is put down as the extreme limit I beg to recall the fact that the vision was 6/200 in each of the first, and 2/200 in the worst eye of the second patient Unilateral amblyopia even has been observed, but it is usual to find the impairment equal, as one would naturally expect from the fact that the cause acts systemically It is somewhat unusual to find this condition resulting from the use of cigarettes, but my first patient did not use tobacco in any other form

A third case is one which I am by no means sure it is correct to place in this category, and therefore I put it apart from the others, and what comments are to be made on it will apply to it alone

C W, a mulatto boy, age about 21, was sent to me on April 20, 1898, for poor vision Since he was seven or eight years old he had had enlarged cervical glands on both sides, which had often suppurated His neck showed the characteristic cicatrices on both sides and many enlarged glands could be seen and felt Since about the same age (that is seven or eight) he had been a cigarette smoker, but never to excess His indulgence, according to his statement, had not amounted to more than a five cent sack of "Duke's Mixture" a week, which is certainly very moderate A year or so ago he had contracted a venereal sore, which made its appearance within two or three days after exposure, and disappeared at the end of a similar length of time For five weeks his vision had been rapidly failing till he had little more than light perception peripherally when he came to me Indeed, his field could not be taken with candles, which was probably on account of a large central scotoma The pupils were normal, and the nerves showed whiteness of the lower temporal quadrants In the macular region of each eye the fovea showed as distinctly as we often see it in mulattoes and negroes, and in each macular region there were pin point glistening spots, such as I have often seen at the macula and elsewhere in the eyes of negroes who have perfect sight The only pathologic condition visible to the ophthalmoscope, then, was the condition of the discs which I have mentioned The vessels were normal *Faute de mieux*, he was put on ascending doses of iodid of potash, which he bore with the characteristic complacency of the Southern negro He has gradually increased it to 150 grains a day, and I show here the field of the right eye, taken May 14, when the vision in it was 15/20 p The left eye has, with the candles, a decided relative central scotoma, but the vision has improved very little He can count fingers at one foot eccentrically with it



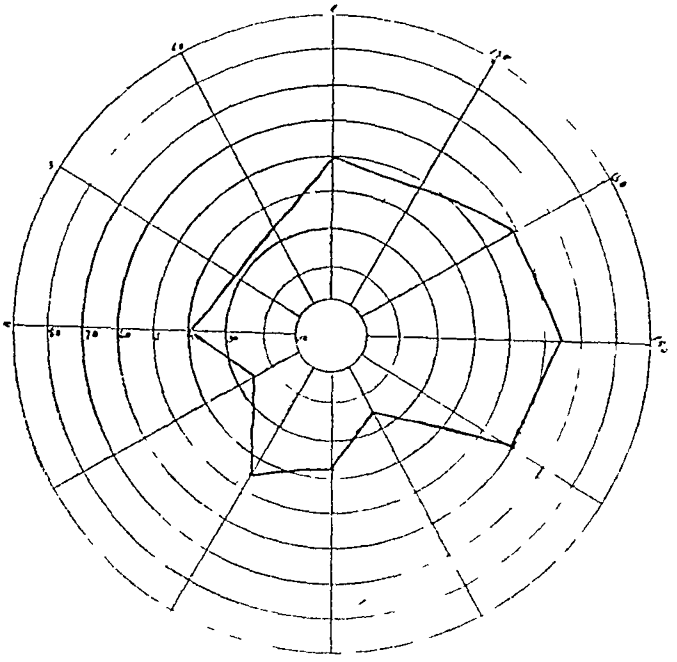
Right Field of vision of C W May 14 1898

As I before remarked there is very slender evidence on which to class this as a case of tobacco amblyopia The youth of the patient, his moderate use of tobacco, and the fact that one eye improved and the other did not, are, I think, against this diagnosis The ophthalmoscopic appearance and the lack of positive reasons for classing it elsewhere are my reasons for presenting it in this connection

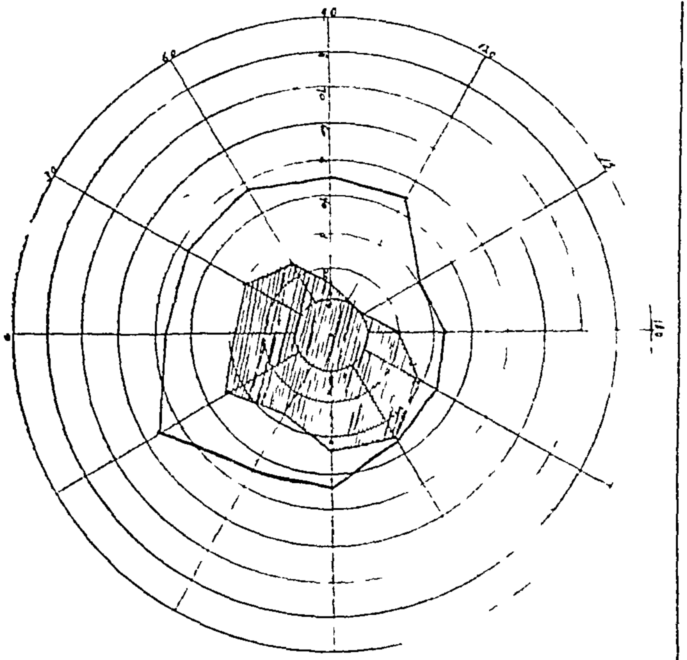
In addition to these cases I have to present the history of a fourth

F F, aged 30, was brought to me by my friend, Dr Pincus, of Memphis, with the following history Since seven years of age he had smoked cigarettes in increasing numbers and from 1890 to 1893 he smoked from forty to fifty a day In 1893 his employment prevented him smoking so constantly and he reduced his allowance to from six to eight a day, which number, I may say, he still consumes He smoked a cigar and a pipe occasionally and very seldom drank anything

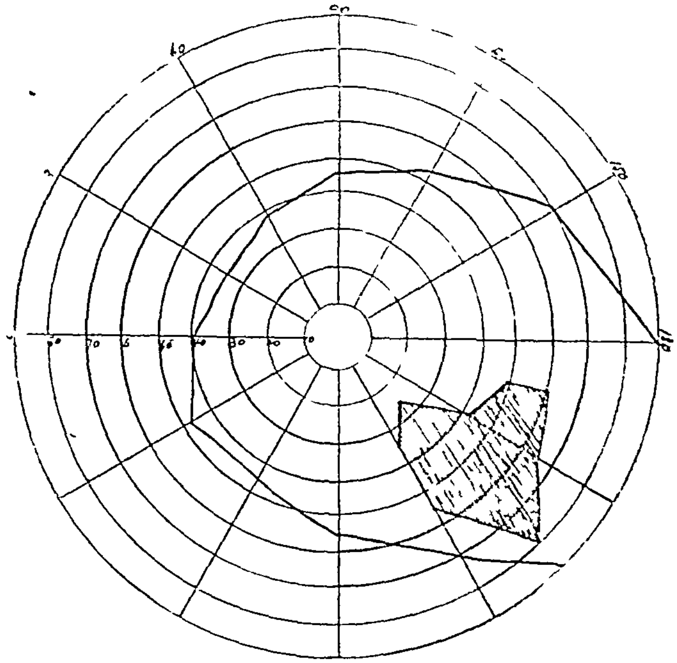
In the fall of 1894 he suffered from intermittent malarial fever of the tertian type for a month On Monday, Nov 19, at the suggestion of a medical student that he take quinin, he procured some of the sulphate and some empty five grain capsules, and mixing a pinch of capsicum with the quinin, he filled twenty four of the capsules, and beginning at 7 A M, he took two capsules every hour till 7 P M, this making the amount about 120 grains At 7 P M he was completely deaf, but the deafness passed off by 10 o'clock, and he felt no further inconvenience in any way till Thursday, the 22, when his eyes burned and smarted a little, but there was no impairment of sight. I may say here that his tertain organisms were effectually routed Friday morning he awoke with the sight of both eyes very much impaired, about as much, he thinks, as it is now He was taken to a physician about noon of that day and when he left this gentleman's office at 1 o'clock he had lost the perception of light, nor did he regain it until the end of three months He was given iodid as high as eighty five grains, three times daily, and also went to the Hot Springs of Arkansas At the end of three months, as I have said, he regained the perception of light, and from that time to the present has experienced a very slow improvement in vision When I examined him first in May, 1897, his vision was O D 7/200 O S 15/200 eccentrically His fields I here show you, and would call attention to the changes in that of the right eye with the final appearance of a relative ring scotoma Colors appear to him as different shades of light and dark Tested as for color blindness with colored wools, he matches the test skeins very well, not by color, he says but by their relative darkness I once tried nitrite of amyl inhalations according to the suggestion of Dr Kollock, of Charleston, but though vision was temporarily doubled, no permanent improvement resulted The pupils of this patient are dilated but respond to strong light and to accommodation The ophthalmoscopic picture is that of optic atrophy (white) with papery nerve head and attenuated vessels



Right. Field of vision of F F, Dec 6 1897



Left Field of vision of F F Dec 6, 1897

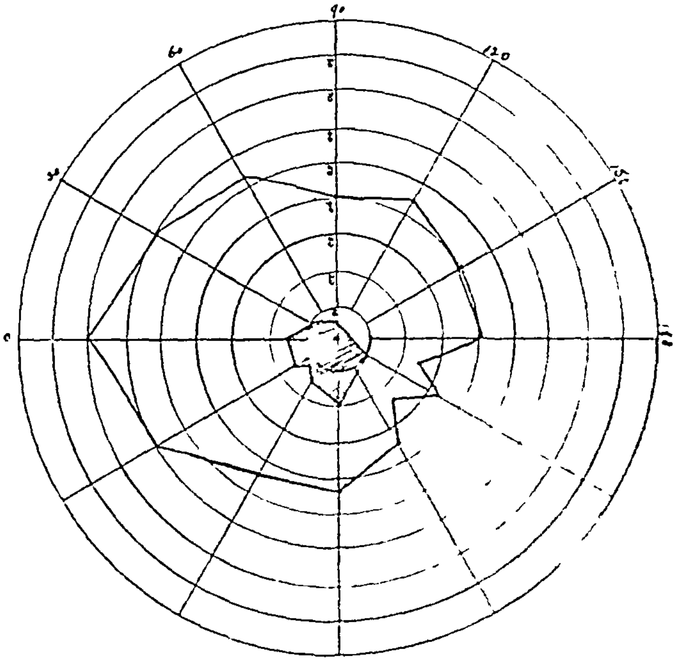


Right Field of vision of F F, Feb 24 1898

In this patient we see nerves already probably affected to a slight degree by the long continued abuse of tobacco, and further devitalized by a continued tertain malarial infection, become the victims of a large, but not enormous, dose of quinin Since this poison is more or less accidental, age and sex do not bear on the condition The unusual features of this case are the following

1 The length of time which elapsed between the ingestion of the poison and the appearance of the eye symptoms As far as I can determine the usual condition of affairs is a rapid effect on the vision

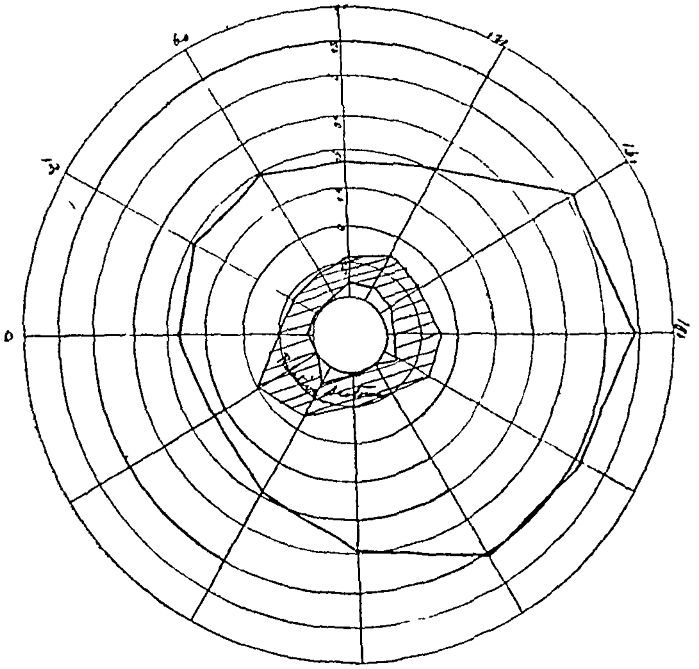
2 The severity and chronicity of the visual impairment



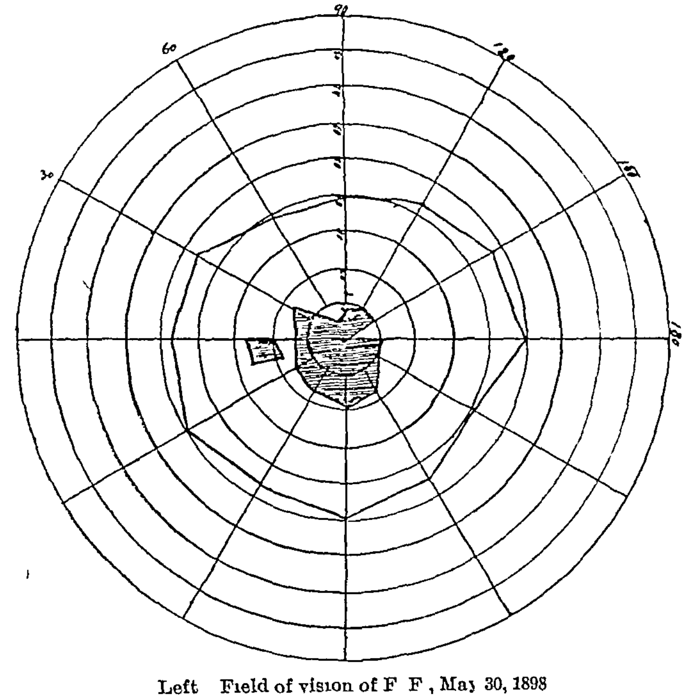
Left Field of vision of F F, Feb 24 1898

3 The unequal effect on the two eyes

4 The peculiar and dissimilar visual fields, presenting a relative ring scotoma in one eye and an absolute central scotoma in the other The effect on the color sense is not remarkable, considering the impairment of vision and the ophthalmoscopic appearances



Right Field of vision of F F, May 30 1898



Left Field of vision of F F, May 30, 1898

SOME RESULTS IN CASES OF TOBACCO AMBLYOPIA

Presented to the Section on Ophthalmology, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo June 7-10 1898

BY LOUIS J LAUTENBACH, M D
PHILADELPHIA PA

The results here presented to you are the conclusions drawn from the various cases of tobacco amblyopia treated by me during the past seventeen years The cases selected are intended not only to call attention to the favorable results following treatment, but to serve especially as illustrations of the faith that is in me The subject has been so exhaustively handled that it is needless to theorize more, practical experience is after all our final teacher

I employ the term tobacco amblyopia to express a bilateral, retrobulbar neuritis of the optic nerve with central color scotoma, followed later by an atrophy of the nerve occurring in one addicted to the use of tobacco, and so far as known not using any other toxic agent to excess The condition may be due to a primary hyperemia of the nerve in this location—the interstitial inflammation, with later the formation of connective tissue elements followed by atrophy of the axial fibers of the optic nerves following it The primary lesion may be a direct action of the poison on a central inhibiting center followed by the phenomena above outlined—a suggestive fact in connection with this supposition being that it is always bilateral Whichever of the various theories as to its primary origin may ultimately be proven to be the true one, the lesions met with are well understood That which especially concerns us are its early recognition and curability, and the measures that conduce thereto I believe that tobacco blindness is not an uncommon affection, being far more prevalent than usually supposed It varies from a condition of but slight obscuration of vision to a complete loss of sight It is in the early stages especially that the affection should be recognized, as then the complete restoration of sight is comparatively easily accomplished, whereas in the later stages when atrophy has set in, the disease can usually be arrested but the vision can not be fully restored The reason why we find in hospital reports so very few records of tobacco amblyopia is, I think, that these slight cases go unrecognized, the condition being perhaps unconsciously overcome by the doctor insisting upon more rigid habits and alterative treatment The cases are usually recognized by the disturbance of vision observed on passing from the dark to the light, or even vice versa, by an obscuration of vision more or less constant, by perhaps even a slight sluggishness of accommodation, by at first a hyperemic condition of the outer half of the nerve, especially below, and, I fancy, a slightly sluggish pupil on varying the illumination, and by olfactory evidences of the excessive use of tobacco as well as from the history

As for the form in which tobacco must be used to bring about such results, I would say that it would have to be smoked, that is, the oily alkaloid volatilized, and the other constituents of the tobacco gasefied In my work I have never seen a case produced by the use of snuff, nor have I seen a case in which I was sure it was caused by the handling of the tobacco either in its fresh or dried state, nor have I seen a case in which there was any evidence that the chewing of tobacco has caused it I know this latter statement is at variance with that of most observers, and yet so sure am I of this fact that I allow my smokers, who are also chewers, to continue the latter if they will but stop the former Case 2 is one to whom I allowed this privilege and yet he improved from R E 6/19, L E 6/19 in three months' treatment while using chewing tobacco constantly to R E 6/6, L E 6/6

As for the age at which this disease appears, I think it well to recognize that *it is especially liable to occur in adolescence and early manhood*, on account of the greater susceptibility of the nerve structures I have found it present in a comparatively large number of patients under 21 years of age The youngest was aged 13 years Case 1 was a well-marked and typic case of rapidly progressing tobacco blindness The oldest case I have treated was 76 years of age

In regard to the condition of the pupil, I have frequently observed slight irregularities and inequalities present, and as before said, I fancy that the response to light stimulation is slightly less prompt than normal I will briefly outline a few cases and their results, making comments as necessary and will indicate later the treatment followed All the cases showed typic central scotoma with the usual objective symptoms

Case 1 —Frank A R , a school boy aged 13 years, was examined Jan 19, 1888, and presented the typic symptoms and history—a cigarette smoker, had never used alcohol , had history of increasing loss of sight during the past year Remote vision, R E 7 5/38 , L E 7 5/48 , proximate, R E 1 J @ 7—40 cm , L E 1 J @ 7—40 cm The remote vision was slightly improved by glasses Stopping the tobacco entirely and pushing the treatment the vision was raised in four months to R E 7 5/9 , L E 7 5/6, improvable with H As glasses to B E 6/6

Case 2 —Mr Thomas R H , aged 50 years, came Dec 28, 1896, with a history of steadily decreasing vision, commencing one and one half years previously He never had used alcohol in his life On his arrival I observed he had a very peculiar gait He walked with his head twisted to the side and downward, at once indicating central total scotoma, which was confirmed by taking the fields His remote vision was R E 6/10, L E 6/10 , not improved by glasses Near vision was R E 20 J @ 19—100 cm , L E 20 J @ 15—100 cm He had early noticed mists and obscurations of vision and an increasing impairment of sight Later on he began to observe that his central vision was gone , he has been compelled to rely on eccentric vision for about a year His tobacco smoking was stopped at once and he was allowed to chew although he had not done this before He had averaged over eight cigars a day, but ceased at once The treatment was pushed to the fullest extent and he was very faithful in following all my directions After three months' treatment I ordered for him B E + 2 75 for near = 1 J @ 17—45 cm His distant vision without glasses was R E 6/6, L E 6/6 This was a typic case of tobacco blindness and one easily proven, and yet by ceasing smoking and thorough treatment his remote vision was made practically perfect, his central vision being restored to him, and instead of walking with the head twisted on the body he saw perfectly well with the head erect and directed forward as natural

Case 3 —George W S , a tobacco dealer, aged 57, came to me Feb 5, 1898 , a case dating back some ten years since its origin, one in which atrophy had occurred to a great extent Remote vision, R E 3/60, L E 3/60, not perceptibly improvable by glasses Proximate vision, R E some 50 J , L E 50 J , not improvable by glasses No alcohol has ever been used by the patient, but he has been a constant smoker since he was a boy After three months' treatment and the ceasing of the use of tobacco, continuing the chewing, however, his remote vision improved to R E 6/48, L E 6/18 , with glasses, R E 6/9, L E 6/12 and his near vision with glasses to B E = 1 J @ 21—38 cm

Case 4 —Mr John R., aged 76 years, came to me March 27, 1897, with a typic history of tobacco blindness, dating back some twelve years—the observed symptoms confirmed the history He had always been a heavy smoker but a moderate drinker The condition present was one of extending atrophy His distant vision was R E 4/60, L E 2/60, not improved by glasses Near vision, R E some 30 J, L E some 40 J I could not entirely stop his smoking, but put him on the scantiest allowance possible, and instituted the usual treatment, with the result that with glasses his distant vision improved to B E 6/24, and near vision to B E = 3 J @ 20—35 cm The case is interesting on account of the age of the patient, the length of the period of involvement and the fact that despite these factors there was a marked improvement in vision

Case 5 —Mr G W S , New York City, jewelry salesman, aged 33 years, came March 8, 1894, with the typic history, fields, symptoms and appearances of a commencing tobacco amblyopia He commenced the use of tobacco as a boy and continued at it pretty continually, using at the time eight or ten cigars a day Later on he commenced to use alcohol, but not excessively His symptoms of blurred vision and obscurations, especially when there was a change of illumination, particularly when leaving the outer air and entering a room, had continued for about a year, lately seeming to get worse Occasionally he momentarily saw double, but attributed this to his stomach Remote vision, R E , 6/9 ? + 1 × 90° = 6/6, L E , = 6/9 ? + 0 50 × 90° = 6/6 Proximate vision, R E , 1 J @ 13—57 cm , L E , 1 J @ 15—64 cm The proper glasses and treatment were ordered for him and he was strongly urged to stop smoking, being warned he would go blind unless he ceased it

I saw very little of him after this, but have learned from his friends that he continued the tobacco habit until quite blind, when he consulted an Eastern specialist, who insisted on the stopping of the tobacco, but he refused to obey His vision is now so bad that he has not been able to do his work for over two years, and lately is compelled to have some one guide him when he goes outdoors This case excited so much compassion in New York City that a benefit was given him the past winter, at one of the prominent theaters there, the announcement indicating the total blindness of the beneficiary We will observe that when he presented himself his vision for near and distance was almost normal, and yet four years afterward he was totally blind

Case 6 —Mr John A Z , attorney, age 23 years, came for the first time March 23, 1893, with a typic history of tobacco amblyopia, and the examination gave absolute evidence of the same fact The blurred vision on going into the light was very marked It had been coming on for about a year Remote vision was, R E , 6/10, with glasses 6/6 , L E , 6/30, with glasses 6/12 Proximate vision, R E , = 1 J @ 12—48 cm , L E , = 1 J @ 12—46 cm After cessation of the smoking habit (he was a very mild user of alcoholics) and steady treatment for four months, he was discharged with a remote vision of R E , 6/6 , L E , 6/6, with glasses, and proximate vision R E , 1 J @ 12—50 cm , L E , 1 J @ 12—50 cm His eyes were practically perfect

He again appeared April 23, 1896, having recommenced smoking shortly after his discharge by me although I had carefully informed him as to its danger His remote vision now was R E , 6/24 ? L E , 6/24 , improved with glasses to R E , 6/6 + , L E , 6/6 , and proximate vision, R E 1 J @ 12—44 cm , L E = 1 J @ 12—44 cm After three months' treatment such as had been followed before by such good results he was again discharged as well, with normal vision, and up to this time he has not reappeared

It will be noticed that the first three cases above noted developed in those who had not used alcohol in any form Of the others none had used alcohol to excess Several of them continued to chew after the treatment was commenced and yet the vision improved In all in whom a favorable result followed was smoking withdrawn

The treatment to which I now subject my patients comprises the routine measures of absolute stoppage of smoking, the use in increasing doses of iodid of potassium, the use of increasing doses of strychnin In addition, I always order the frequent applications of hot washes to the eyes, preferably by means of eye cups I always use irritants, such as alum stick, etc , to the lids myself two or more times a week I always advise hot plunge baths if possible every night, and order that hot water, hot milk or hot lemonade be used frequently and liberally I have observed quite a marked increase in the amount of improvement developed in my cases since these latter measures were systematically added to the treatment I believe they serve to improve the local circulation about the eye as well as the general circulation, thus stimulating the metabolic processes and strengthening the activity of the secretory organs to such an extent as to the sooner relieve the system of the toxic agent as well as of the results of the perverted nutrition It may be termed a going back to the old water treatment

1723 Walnut Street

AMBLYOPIA FROM AUTO-INTOXICATION

Presented to the Section on Ophthalmology, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo, June 7-10 1898

BY H B YOUNG, A M, M D
BURLINGTON, IOWA

Within the past year I have had under observation six cases of amblyopia differing in degree, and more or less transitory in character, for which I have been at a loss to give a definitive diagnosis The possibility of an hysteric origin has not been overlooked Indeed with two of the six this idea is still entertained But with the others, the presence of a particular symptom, coupled with intestinal derangement, and this more or less uniform in all, seems to allow the characterization which appears in the title of this paper I will endeavor to describe briefly these four cases

Case 1 —Mrs C S, age 40, mother of four children, hitherto vivacious and apparently healthy, aborted last May in the sixth week of her pregnancy She was making good progress toward recovery under the care of her family physician, when on the evening of the third day, without any undue flooding, pain, or other bodily disturbance, she complained of a failure to see objects distinctly—as if the lights had been turned down The next morning she could see nothing -had not even light perception I saw the case immediately and found the conditions as follows Patient in bed and a professional nurse in attendance, alarm and despondency manifest, the face was pale almost putty color, the eyes had the aimless stare and wandering peculiar to those blind from atrophy, the pupils were widely dilated and unresponsive, no complaint of pain about the eyes or head, and no hypogastric tenderness The tongue had a dirty yellow coat, and the breath a peculiar foulness of odor I wish that I could accurately describe this odor, for this is the particular symptom which these indeterminate four cases all had You have all noticed the odor of the breath in cases of extensive corneal suppuration These amblyopic cases had an odor equally putrid, but more stale and musty

Ophthalmoscopic examination was negative—the discs were perhaps a little pale, nothing more Both nurse and physician were interrogated, but the reply was in each case positive "no mydriatic medicine had been used in any way" The bowels were said to be inactive, and the appetite nil The pulse, temperature and urine were negative The odor of the breath, associated with loss of appetite and inaction of the bowels, suggested a failure of digestion, and in the absence of any structural changes in the eyes, I hazarded the opinion that if the alimentary canal was promptly cleaned out by a cholalogue cathartic, vision would probably return Calomel was given at once, and continued until the bowels moved freely (the nurse describing the odor of the discharges as foul beyond anything in her experience), with the result that on the third day the pupils reacted, within a week there was Q P L, and a month later, after correction of astigmatism, vision was $^{20}/_{20}$ in both eyes

Despite a careful dietary, however, and more or less in the way of medicine all this while, a normal appetite, regular action of the bowels, and buoyancy of spirits were not regained until two months later

In January last there was a return of all her troubles in a modified form, constipation, poor appetite, foul breath, low spirits, and vision reduced to $^{20}/_{70}$ and reading headlines in the papers Ophthalmoscopic examination was again negative The field for form was perfect, for color, uncertain The red and green squares on the perimeter targets were *not* recognized at all, but when shown in larger areas were correctly selected in a number of different shades The same line of treatment was employed as in the first attack, (pleasure journey included) and the result while more slowly attained, is the same

Case 2 —P R S, age 59, formerly a master mechanic for a railway company, consulted me for the first time in January 1893 He thought his vision might be helped by glasses The record shows that I got for him $^{20}/_{30}$ in the left eye with —1 5 sph and —0 5 cyl, axis 90, but only $^{20}/_{0}$ in the right with —2 sph on account of opacities in the posterior lens cortex In December, 1895, he came for a change of glasses He now had $^{20}/_{40}$ + in the left eye with — 2 5 sph and — 0 75 cyl, axis 90 In the right eye the lens seemed a little more opaque (It is to be noted here that from this time on Wallace's test card was used, the letters having only 4″ angle)

In January, 1897, he came again, very much discouraged over the continued failure in vision The left eye had now only $^{20}/_{0}$ — with —4 sph, and cyl as before The disc was moderately excavated and the tension was apparently too high, but no fault could be found with the pupil, ant/ chamber, or field of vision However as there was some complaint of pain at times, and the condition was that wherein one hesitates to decide between simple atrophy and chronic glaucoma, I felt that a tentative exhibition of a miotic was not out of place I therefore prescribed pilocarpin, and after some days my patient reported the situation improved both as to comfort and vision

In November, 1897, he again presented himself, very despondent "Vision" he said, "had again failed, had been so bad at times that he could hardly get about" He had abandoned business and was trying to take care of himself, had had some difficulty with his digestion, but had not consulted his family physician Sometimes he thought he saw better with the eye that had the cataract His face was pale and his manner was languid, but to my great surprise vision was more acute in the left eye than at his last visit With —7 sph (an increase 3D —) and — 0 75 cyl, axis 90 he had almost $^{20}/_{40}$ Tension was normal and the field was normal I made no change in his glasses, but insisted that he should see his family physician at once He came a month later, having in the meantime gone to see a physician in Chicago There he had gotten a diagnosis of enlarged prostate and chronic cystitis Urinalysis had shown the presence of pus and a little albumin, but no casts He had been advised to learn and practice self catheterization, and for this purpose had ordered a catheter He thought his vision was again worse, but I could see no change In January of this year his daughter wrote me that "vision had again failed, was just as good without glasses as with, and poor both ways The Chicago doctor had written that it was probably due to albuminuric retinitis, and the prospect was grave" I thereupon went to see my patient at his home I found him confined to his bed, very feeble and despondent, about ready to give up the fight His appetite had failed, the bowels were inactive, and he had the characteristic odor of the breath Vision was reduced to Q P L, and not improved by his glasses I dilated the pupil with homatropin and examined the fundus thoroughly, but no suggestion could I find of hemorrhage, or retinal inflammation The disc was possibly more excavated, but even that was doubtful Tension was normal In consultation with his physician I afterward learned that in attempting self catheterization, a silver catheter had been used, violence had been done, and an orchitis set up And this was the original cause of his going to bed As in case 1, I advised the free use of calomel and expressed my belief that the amblyopia was toxic, although probably not uremic in character How thoroughly my idea of treatment was carried out I do not know, for we were forty miles apart But I understand that it obtained in part at least with good results A month later my patient died The daughter, in writing to me of this event said the nurse described it briefly as 'death from uremia" But she also wrote these particulars "Six days prior to his death he had some friends in to play cards with him He had been up and around but was weak Three days before he died he began to suffer pain (I subsequently heard that this was in the lower part of the abdomen), and this was more or less continuous to the end The day before he died he was up and dressed, but in the evening had a terrible chill, an hour later became delirious, and went from that condition into coma which terminated fatally in a few hours" No autopsy

Case 3 —J W, age 35, a machinist in the railway shops, came to me Oct 6, 1897, to have a small foreign body removed from the cornea It was superficially lodged and easily extracted Otober 18 he returned to say that his injury of the 6th instant had been more serious than he thought, as he was unable to see the lines on his work The injured eye was perfectly healed, and had V=$^{-}/_{10}$—, while the uninjured eye had only $^{20}/_{30}$— The discs were a little pale, no other abnormality Hyperopia (under scopolamin) was 0 5D Glasses did not help His general health, he said, was good, except for a little indigestion and a little constipation He used tobacco freely, and drank weak domestic wine at home He also had a little difficulty in telling colors—confused reds and greens This proved not be a typic scotoma for color, but I nevertheless looked upon the case as a tobacco alcohol amblyopia and contented myself with advising total abstinence After a month of this, he returned to say that he was no better in vision, and now he had no appetite He was pale and anxious looking

All at once, in coming close to him, I caught the odor of his breath It was identical with that in Case 1 So I gave calomel to free catharsis, and followed this with calomel and salol in small doses, thrice daily, for a number of days Under this treatment the breath became sweet appetite returned and the bowels became regular On December 12 my record shows that he accepted a correction of +0 5 sph which he had before refused, and had $^{20}/_{30}$ + in both eyes

Case 4 —T G , age 12 years, schoolboy, son of a farmer, came home from school one day about the middle of last December, complaining of headache and inability to see his lessons He had been dull and listless for a week or two but prior to this had made no complaint I did not see him until he had been ill five weeks He had now been confined to bed since January 9, suffering from obstinate constipation, persistent vomiting, and pain in the head and eyes His bodily weight had fallen from 90 to 65 pounds, and he had an unnatural appetite—at one time craving, at another indifferent His vision had also failed

The boy was spirituelle in appearance, greeted me pleasantly, and answered questions willingly, in a subdued drawl General weakness was manifest, but there was no evidence of any paralysis and the reflexes were normal The tongue had a yellow and brown coat, and the breath was not sweet Vision was $^{10}/_{30}$ — in the right eye, and $^{10}/_{30}$ in the left—better with + 0 75 cyls (90 degrees) than without He professed inability to read any ordinary type, but read a few words in large type, held very close

The fundus, which I could see best (erect) with + 4 D correction (and I have hyperopia 2 5 D) had no markings that might not have been normal The inferior temporal vessels gave a suggestion of fullness and curving, and the pigment in one or two places was not evenly distributed But I could find no swelling at these points or about the papillæ As in the other cases, I advised a thorough exhibition of calomel, and careful supervision of the diet This advice developed the fact that in order to keep the bowels from complete inaction the cascara strychnin belladonna pill had been resorted to, and he was taking from three to five every night at bedtime The calomel, however, was given, as I afterward learned, and produced the most foul odored discharges that the family had ever known Following this there was a little amelioration of the conditions But the treatment was not pushed, and the benefit was temporary

I did not see this patient again until three months had elapsed Stimulated to more persistent effort by their family physician, wonders had been worked in the boy's general condition He is not yet able to walk, but he sits up all day, and is gaining in strength and weight His vision is also improving slowly He can tell the time by the wall clock and read a little Jaeger No 6 There is still nothing in the fundus, that I can see, to account for this defective vision

Extended comment seems to me unnecessary No one realizes more fully than I the incompleteness of the pictures herewith presented, and that there is nothing in these visual peculiarities which might not have been simulated nolens volens Had I seen but one, or, at most, two cases of this character I should not have so trespassed on your time and attention But the number of cases and the constant association of the visual disturbances with manifest disorders of digestion which were so nearly alike in all, has impressed me

I also deem it but justice to myself to say, that I had exclusive control in but one of the six cases and this is said with no intent to disparage my colleagues in the other five It only explains in part, the absence of systematic investigation for the moving cause Of the two cases not described, it remains to be said that one was a boy aged 10 years, the other, a man aged 27 years Both recovered

To recapitulate according to age There was one at 10, one at 12, one at 27, one at 40 and one at 63 Five males and one female

DISCUSSION ON TOBACCO AMBLYOPIA

Dr F C Hotz, Chicago—I was invited to open this discussion, but I take it that I need not cover the whole subject that has been presented, and that it is my duty simply to start the ball of discussion rolling My experience with toxic amblyopia has not been very large I have for instance, never seen a case of quinin amblyopia, or one from any other cause than tobacco and alcohol My cases were mostly of the mixed form, both alcohol and tobacco being used to excess by the patients From the observations that I made, I think the gradual loss of sight, the slight ophthalmoscopic change at the disc and the sluggishness of the pupils were the prominent clinical symptoms The patients do not, as a rule, come to us at an early stage, but I have among my cases one that is an exception, and I have not heard or seen anything like it In that case, the patient had good vision in the morning and two hours later his vision was completely obscured in both eyes He was a saloon keeper and was one of his best customers, both as to wet stock and the weeds He was secretary of a lodge, and one morning (this occurred in 1875) he wrote up the minutes of a previous meeting to report at the meeting to be held that afternoon He went to the meeting two hours later, and when the chairman called upon him to read the minutes, to his amazement he was unable to see his own handwriting

He came to Chicago two or three days afterward, and an examination showed slight blurring of the edges of the disc, the vision reduced to less than -$^{0}/_{100}$, and the perimeter showed a positive central scotoma in each eye, in the right covering ten degrees, and in the left five degrees He was advised, of course, to stop drinking and smoking at once, and to use the iodid of potassium in increasing doses, pushing it rapidly In a few months there was no trace of scotoma and central vision had improved to -$^{0}/_{0}$ In this case I am not quite certain whether the gentleman has absolutely followed out my orders as to the liquor, but I suspected all the time that he did not

We are often told by patients of the sudden loss of sight and find on closer questioning that vision had been failing gradually, and they reckon the loss only from the moment when they failed to read, but in this case there is evidence of the patient having been able to read and write two hours before the total failure

Dr Casey A Wood, Chicago—I have been especially interested in Dr Young's paper, because I believe that I have obtained ample evidence of the auto intoxication theory of amblyopia Horner—and I do not think there has ever been any more acute observer of these cases—as long ago as 1873 expressed the opinion that inasmuch as he had noticed chronic gastritis in alcohol amblyopia, so did he believe that the changes in the stomach had to do with toxic amblyopia quite as much as the tobacco or alcohol in the system Sachs, a short time ago, went even further and stated, I believe, that it is not the nicotine or alcohol but some compounds of these things in the stomach which produced the retrobulbar neuritis of toxic amblyopia

There are other points of interest we should not forget Amblyopia often comes on in diabetes, as a result of malnutrition Another point to bear in mind Tobacco does not set up changes in other nerves Another matter to consider in connection with this paper is that form of atrophy of the optic nerve that Uthoff placed among the unknown causes I have for several years held the belief that these cases were in some instances at least due to auto intoxication In talking the matter over recently with Dr Klebs and Dr Turck of Chicago, we all thought it was not impossible that this might be the case In a series of experiments on dogs recently it was noticed that in some instances, after hypodermic injection of certain ptomaines amblyopia followed We have continued these experiments, and I propose to follow them up and I suggest to you all the proposition that a certain class of cases of progressive optic nerve atrophy are the result of absorption from the intestinal tract

Dr D S Reynolds, Louisville—This is a field that is very fertile, I think, and it is fortunate that a large number of observers are cultivating it I have every reason to believe that there are many cases of amblyopia due to auto intoxication That view has been forced upon me by experience I am equally convinced that the cases of tobacco amblyopia are difficult to separate by any pathologic changes, by perimetry and the color test, from similar conditions found in persons given to the use of other toxic drugs. I do not believe that the use of alcohol alone, as a beverage, is so likely to produce amblyopia as the condition that it brings on by way of disturbed functions. The inhibitory effect of alcohol upon the eliminating organs affords, at least, reasonable grounds to suspect that a part of the results of amblyopia formerly attributed to alcohol are really due to auto-intoxication, because similar conditions are found in people with disturbed nutrition who do not use alcohol. There are many cases in which amblyopia at first may be very slight, and when you see the same again, say after a lapse of two or three years, you note that the area of affected optic nerve substance has gradually extended, and if symmetrically in all directions from the central point, there has been very little increase in the amblyopia, but if more extended toward the temporal side of the disc, then the amblyopia has been correspondingly increased.

I think I know that tobacco does produce a form of hyperplasia resulting in changes in the nerve structure, and I dissent from the view that it operates upon the optic nerve alone, because it is well known that those who use tobacco in any form have disturbances of muscular co-ordination, and are liable, most of them at least, to insomnia. The fact, too, that tobacco heart is a recognized form of weak heart, is another evidence that other parts of the body than the optic nerve are disturbed.

Now, I believe that the tea drinker is in just as much danger as the habitual consumer of tobacco, and that these are not in much greater danger than the excessive coffee drinker. I believe that coffee does not hurt any one who takes active exercise, and who takes the coffee in the morning only, but those who use it three times a day and often extra cups between meals, are apt to have trouble. I know a lady in Louisville who got in the habit of drinking coffee to such an extent that any intelligence of a disturbing character called for the use of more coffee, and she had such disturbances of muscular co-ordination that she became unable to stand alone. Her vision is so bad that she can no longer read, and can only see sufficiently to distinguish chairs and large objects about the room.

Dr. **Leartus Connor**, Detroit—At our meeting in Newport, I presented a paper on "Tobacco Amblyopia, Pure and Simple," and reported all the cases I could ascribe to a definite cause. Since then a few have come to my notice, and one of them was singular in this respect, that the man, 40 years old, began to smoke as soon as he could walk. His father was an inveterate tobacco user, and the boy was taught to light the pipe and smoke it before the father received it. No doubt it was a very pretty thing to the father, and the boy kept up the use of tobacco nearly constantly until about a month before I saw him, when he noticed a failure of vision. He was a very nervous man, but otherwise in perfect health, and he never used any alcohol, tea or coffee. Characteristic evidences of disturbance of the optic nerve were apparent; the vision in one eye 4/200, and in the other 2/200. When I told him what he had to do, he said: "I would rather die than do that, but for the sake of my wife I will try it." He did try, and in three months his vision was 20/30 in either eye and he could read J1. Some six months after this he met with financial difficulties, and in a fit of despondency killed himself. Whether the loss of tone to the nervous system rendered him unable to resist this action in the time of trouble I do not know.

I have never seen a case of quinin amblyopia, but a case came to me recently, a little child about 12 years old, who had the history of using three or four cups of strong coffee three times a day. For a month or two before her visit to me she had quite severe headaches, and her right eye finally became utterly useless for sight. Everything looked red before her and the right eye saw things imperfectly. If I held my hand before her, she saw it, but declared its position reversed from what it actually was. The ophthalmoscopic evidences were negative. The stopping of the coffee alone resulted in the diminution of these symptoms and the return of normal vision.

As I remarked to Dr. Reynolds, a few minutes ago, coffee has given me more trouble in the disturbances of vision than all the other drugs used by humanity put together.

Dr. W. H. **Wilder**, Chicago—I think there is a suggestion of considerable truth in the idea of auto-infection causing impairment of vision, but I can not believe that many of the so-called toxic amblyopias are cases of auto-intoxication. The cases reported present certain unique features, and it would seem to be difficult in many cases to dissociate the symptoms from hysterical manifestations. As far as intoxication with quinin, or any other drug than tobacco, is concerned, I have never seen but one well-marked case. I remember seeing one case of quinin amblyopia in a woman residing in the South who had taken very large doses of this drug for malaria. The general impression is, I think, that the ill effects resulting from the use of tobacco are due to nicotine, but I do not think this can be proven at all, but rather that the trouble is due to some other product of tobacco, possibly to the ingestion of pyridin. It has been shown that when tobacco is smoked in cigars, collodin is present in large percentage, whereas when it is used in a pipe pyridin is the main product which gains entrance into the system, and naturally we would expect more of it to be ingested the shorter the pipe. I believe it is a well-known fact that more of these cases of tobacco amblyopia are seen in England than elsewhere in the world, and it is probably due to the fact that the Englishman usually smokes a short pipe. That lends some support to the idea that it is pyridin that produces the ill effect.

Aside from all this, there is also the factor of susceptibility of the individual. We can not say in any given case that a man is likely to have an attack of tobacco amblyopia, and certain races, the Cubans and Spanish, for instance, are almost free from it. The use of certain qualities of tobacco also seems to produce more trouble than others. Aside from the susceptibility of the patient, I do not believe an individual is liable to an attack unless the resisting power of the whole organism is lowered, and then an excess of either tobacco or alcohol is liable to bring on disturbances of digestion and a lowering of the general vitality, together with an inflammation of the nerve.

Dr. D. C. **Bryant**, Omaha—I have had a case under observation for ten years that is very susceptible to quinin. It happens to be my brother-in-law and I have had a good opportunity to observe him. Dr. Wilder spoke of the difference in the influence of the drug according to whether the patient was or was not in good health, but this patient seems to be an exception to that rule. He first noticed his trouble ten years ago, when he was suffering with malaria or mountain fever in Western Kansas and had taken large doses of quinin. His vision became very poor, and as he expressed it, "he was seeing through a pin hole," the vision being reduced to a central point. In the course of a month he had a relapse of the disease and quinin was used again with the same effect. He left the ranch, came home and recovered entirely. In order to see what effect it would have upon his eyes, some time after recovery I gave him a dose of quinin. He was then in good health, but a dose of 15 grains would markedly reduce his vision.

Dr. **Reynolds**—Did it produce peripheral contraction or obliteration of the central vision?

Dr. **Bryant**—Peripheral contraction. It seems to be a clear case of quinin poisoning.

Dr. C. R. **Holmes**, Cincinnati—I have under my observation a case that was rather unusual. On a Sunday a message came to me to call at a certain house Not going to my office on Sunday, my assistant received the message and made the visit. He has been with me nine years, is a very capable man and has made some excellent drawings I mention that to show that he knows optic nerve changes when he sees them He found the man drunk and blind He had been to Washington, where he had been successful in securing a patent He had been reading on the train on the way home and he stated that having caught cold he sent for some whisky and quinin He got a pint bottle from a fourth class druggist in the neighborhood and had directions to take a certain quantity every hour or two After taking about half of it his vision failed and he became deaf The doctor made an ophthalmoscopic examination the following morning and found intense hyperemia of the disc He had the contents of the bottle analyzed and found nothing but quinin and whisky I urged upon the assistant to tell him to come to the private hospital for treatment He refused and did not send for me again for two weeks, when he said he could begin to see the outlines of the window and his hearing had returned Three weeks later he came for treatment but at that time there was complete atrophy and he was totally blind

Dr ELLETT—In regard to the cases reported by Dr Lautenbach in which the condition disappeared without cessation of chewing tobacco my former partner, Dr Minor, has gone him one better and reported eight cases that underwent perfect recovery without stopping either smoking or chewing Those cases have been rather extensively quoted, but I do not think anybody has profited by them to permit such things in their treatment The only thing I want to comment on is the age of his cases, which is in striking contradistinction to the literature of the subject I have only found ten under 30 years of age and none under 20

Dr LAUTENBACH—As regards the age of the patients I think there has been one case reported at 19[1] I called attention to another fact which is that I believe there is a large class of cases which if recognized at first are perfectly curable I think we can then use a method of treatment that will bring us through our difficulties Often, especially in hospital practice, our diagnoses are not made accurately enough and often the medicine prescribed and the hygienic directions given are such that the case becomes well—the case not being reported as a tobacco or toxic case, but perhaps simply as a refraction case needing tobacco or alterative treatment to overcome a depraved general condition

In regard to the matter Dr Wood spoke of, that it has not been demonstrated that there is any effect upon any other nerve than the optic, we allow in our public schools certain truths to be taught for which we are in part responsible, and you will find in the school books attention called to the arrest of growth, etc , produced by tobacco and alcohol If it is true that they do not affect other nerves than the optic we should see that things are properly taught For myself I believe that there is plenty of ground for the belief that other nerves are affected It is well recognized that by the withdrawal of tobacco in certain cases of deafness we get rapid improvement, and hence tobacco deafness is a recognized disease Certain heart cases too are said primarily to be due to inhibitory changes in the coronary arteries and I do not see any reason for doubting it Watch the chronic user of tobacco his walk and shuffling gait, and the conviction grows that other nerves than the optic are affected

In regard to the matter of tea, I think the prediction can be made today that ten years hence quite a number of our men will report cases positively due to tea drinking The Americans have been until recently using the Chinese tea, but now a Ceylon tea, which is far more powerful in its effects upon the nervous system, is displacing it and it is expected that the use of Chinese tea on account of its inferior flavor will soon be a thing of the past I am sure I have seen cases attributable to Ceylon tea It is my belief that the whole class of cases we have been considering are due to changes primarily in the nerve, or in the cerebral center, I do not know which, but they all act in the same way and bring about the same result

Dr YOUNG—In connection with my paper I have only to repeat what I said at the start that the cases were indeterminate in my mind I try to make a differentiation between hysteric amblyopia and those which are not I should be inclined to classify hysteric amblyopia, as those which by the effort of the patient could be overcome You know that in the true hysteric cases if you can get the patient's mind off the subject you can promptly restore vision I used the expression "*nolens volens*" because I do not believe there was anything in my cases that was present *volens* and not *nolens* One patient, 60 years of age, when I saw him last was unable to recognize me and to count fingers Treatment enabled him to see sufficiently well to play cards, and I do not believe his death was due to uremic poison, because no casts were found at any examination I am further fortified by the experience of a colleague recently A man with enlarged prostate died with symptoms of septicemia, and postmortem discovered a large perineal abscess that had given no evidence by swelling or pain prior to death My impression is that my case died from septic trouble due to the injury from self catheterization

In connection with the calomel treatment I want to say that in only one case did I have control of the exhibition of the calomel and I was unable to enforce upon my friends the necessity for and advantage of small doses of calomel In the cases that recovered I attributed the result more than anything else to small doses of calomel kept up for quite a period

I want to endorse what Dr Reynolds said as to the uncertainty of color sensations in amblyopia and also to say that at the Atlanta meeting two years ago I reported a case of relapsed amblyopia from excessive tea drinking The case of inverted image that Dr Connor spoke of I should think belongs to the true hysteric amblyopias

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ON THE USE OF EPITHELIAL GRAFTS FOR REPLACING THE OCULAR CONJUNCTIVA

Presented to the Section on Ophthalmology at the Forty ninth Annual
Meeting of the American Medical Association held at
Denver Colo , June 7-10, 1898

BY F C HOTZ, M D

PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY, RUSH MEDICAL COLLEGE
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The unsatisfactory results obtained by the transplantation of rabbit's conjunctiva upon the eyeball, the laborious work of freeing from all shreds of submucous tissue the mucous flaps cut out with scissors or scalpels, and on the other hand, the ease with which Thiersch's skin grafts can be obtained and the certainty with which they grow in their new bed, have induced me many years ago to make use of Thiersch's grafts in operations for pterygium, symblepharon and other conditions where it was desirable to replace lost conjunctiva The results obtained by these operations were very satisfactory, the grafts answered the purpose for which they were implanted, in many instances they became after some time as smooth and glossy as the surrounding conjunctiva and though in other cases they continued producing a white coating of epidermis cells, I have never found this condition to cause any irritation Still I have always regarded the substitution of epidermis flaps for epithelial tissue as a make shift to be abandoned as soon as we should find a convenient method of obtaining epithelial grafts, for the ideal aim of our plastic work should be to replace mucous membrane by flaps of the same histologic character

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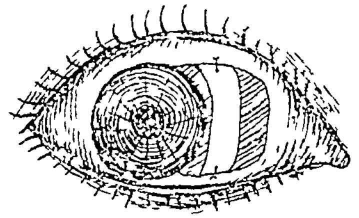
[1] de Schweinitz—Toxic Amblyopias

I believe we have now that improved method we wished for, thanks to the ingenuity of the present chairman of this Section In the *Ophthalmic Record* of December, 1897,[1] Dr Gifford has shown that the cutting of epithelial grafts is very easy and successful if done with a razor instead of scissors or scalpels The flaps so cut, he says, correspond histologically for mucous membranes to the Thiersch's skin-flaps, they are cut so thin that only the epithelium and a very little of the subjacent tissue is removed In other words, Dr Clifford has solved the problem by applying the principle of the Thiersch's razor method of cutting skin grafts to the mucous membranes, an idea so simple that we can only wonder at that we have not hit upon it long ago

As to the proper execution of this new method I will quote Dr Gifford's own words "Probably the main reason why these thin lip-flaps have not been used more generally, is that it is hard to get at the lining of the lips so as to use a razor easily, and to facilitate the process I have had a large clamp made, of which the solid blade is smaller and set at an angle with the shank so as to pass clear through the fenestra of the other blade Closing the blade upon the lip forces the latter into a tense prominence from which the membrane can easily be shaved The surface must of course be kept wet and the razor must be sharp In cutting flaps to replace palpebral conjunctiva, it is better to cut them nearly twice as thick as where they are to be applied on the ball They should be slid directly from the razor to the denuded surface and there trimmed if necessary After pressing them down rather firmly with moist toothpick swabs, they should be allowed to dry on, so to speak, for two to three minutes before the lids are allowed to close A binocular bandage should be left on for the first twenty four hours, and after that a monocular for four or five days After a few days, a thin pellicle of epithelium is thrown off and what is left is so very thin and transparent that one is at first inclined to think that the whole flap has necrosed, but after some days it becomes evident that the flap is alive, although it is so much like the conjunctiva that its boundaries are hard to trace ’



Since reading Dr Gifford's article, I have employed his epithelial grafts in all cases where formerly I should have used Thiersch's grafts, and it gives me great pleasure to state that the results were so satisfactory that I have no reason to regret having substituted Dr Gifford's method for my own I found indeed the flaps could be cut very easily and accurately, and their application offered no difficulty if I only took care to keep track of the side which was to go down on the wound

For illustration I will report only one case, and I select the very first case in which I tried the new method, because it was a very severe test of its merits on account of the unusually large size of the flap

February 7 I removed from the eye of a young man an epithelioma of the ocular conjunctiva The very vascular growth surrounding almost the whole nasal margin of the cornea spread out 12 millimeters over the sclera and invaded the corneal epithelium about 1½ millimeters, the ocular conjunctiva adjoining the lower border of the tumor appeared thickened and opaque In removing this growth I first detached it carefully from the cornea, then I made an incision in the healthy conjunctiva all around it and finished with dissecting up the episcleral tissue from the conjunctival incision to the corneal margin The thickened portion of the ocular conjunctiva adjoining the lower end of the tumor was also excised This operation caused a large exposure of the sclera, which it was impossible to cover by a transplantation of the adjacent conjunctiva

I therefore decided upon implanting a Gifford's lip-graft As I had not Gifford's lip-clamp, I used our ordinary eyelid forceps with its fenestrated branch upon the mucous surface of the lower lip When the forceps was well screwed down the mucous membrane within the ring of the forceps was quickly anesthetized by holocain, and was so tense and prominent that the shaving could be done with the greatest facility and without the least pain I shaved off an epithelial flap about 1½ centimeters long and ½ centimeter wide This flap, floating in sterile salt solution, was transported on the razor to the eyeball and spread out over the denuded surface It was long enough to reach from the upper to the lower conjunctival border of the defect, but too narrow to cover its entire width I had purposely cut it so narrow because in my first grafting operations when the grafts were cut so large as to cover the whole width of the denuded surface, I usually found them slightly displaced toward the cornea during the first twenty-four hours, and I had come to the conclusion that this displacement occurred because the conjunctival border was in contact with the graft and pushing against it during every lateral rotation of the eyeball, displaced it more or less before it had become adherent When the graft is cut narrower so that a space is left between it and the conjunctival border, this displacement does not occur, because that free space prevents the conjunctiva from unduly crowding against the graft during the first twenty-four hours, and when later on the conjunctiva is drawn up closely to the graft, this has gained sufficient hold on the sclera that it can no longer be shifted from its place But to make doubly sure that this graft, which was unusually long, would retain its position, I fastened its upper and lower end to the conjunctiva near the cornea by very fine silk sutures After the eye had then once more been thoroughly irrigated with boric acid solution, both eyes were bandaged

On the second day the graft was firmly adherent, the sutures could be removed and the bandage left off At the end of the first week the gap between the graft and conjunctiva was closed, the conjunctiva having been drawn up to the longitudinal border of the graft In March, when the patient was shown at the meeting of the Chicago Ophthalmological Society, the graft was smooth and red like the adjoining ocular conjunctiva, and when later on the injection of the conjunctiva disappeared the graft also became pale and clear It showed no perceptible contraction, and only the closest inspection could find the dividing line of the graft and the ocular conjunctiva

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[1] On the Use of Epithelial Lip flaps and Half Skin flaps in Eye Surgery ”

DISCUSSION

Dr W L Dayton, Lincoln, Neb —While in Chicago I had a conversation with Dr Hotz in which he mentioned one of his cases to me, and I determined to try this method at the first opportunity Last week a patient presented himself with a very large pterygium that extended clear over the center of the cornea, and fully 2 mm in width at its apex I resolved to make a mucous graft there from the lip I performed the operation as Dr Gifford has suggested, taking a flap 7 or 8 mm long and 5 mm wide In dissecting up the growth I dissected 4 or 5 mm back from the edge of the cornea and down to the sclera, but as he moved the eye suddenly the conjunctiva tore farther back I then had my assistant take hold above while I dissected it back to the caruncle and removed it, leaving the conjunctiva intact after having cut down to the sclera 5 mm from the limits This left a 5x8 mm space to fill up with the graft Everting the lip and outlining the size of the flap desired, I removed the graft with a razor, dropping a few drops of salt solution on the razor, and transferred the graft directly to the eye I held it in position by placing four sutures, one at either corner It was allowed to remain until the third morning, when the lower portion of the graft was of a beautiful rosy hue, and the upper portion a little white and slightly loosened I removed the stitches on Saturday last, and the graft had grown beautifully in its entire extent

In regard to the use of a local anesthetic, I would say that I have never tried the holocain, but I would not advise the use of any local anesthetic before shaving the graft, for I presume it does not hurt very much

Dr G C Savage, Nashville—My friend Hotz and I do not always agree, but I believe the best method for dealing with pterygium is that outlined in his paper Following Hotz, I commenced the transplantation of skin, instead of mucous membrane, and months and months after found it still skin, so I am glad to hear, from his own lips, that it is better to use mucous membrane My own method of operating is to make a puncture and counter puncture in the body of the pterygium, not far from the cornea, through these passing one blade of straight scissors, pressing the blades slightly toward the inner canthus before bringing them together, and pull off the corneal portion by traction forceps A very small portion of the mucous membrane of the lip transplanted will cover almost completely the exposed scleral wound One suture above will hold it in place, as a rule My experience from this method of procedure is very happy I think it should be resorted to in all cases, because so many of the cases operated upon by other methods recur

Dr J L Thompson, Indianapolis—How long have any of you gentlemen seen your cases after these operations have been done?

Dr Hotz—This case reported was operated upon in February, and I saw him two weeks before I came here This was not a pterygium case, however, but I think the same operation applies I have seen cases treated with the Thiersch graft two years afterward, and the growth had not returned

Dr Gifford—There is very little to be said except that the suggestion of Dr Hotz, that where you have a large flap it is better to use a stitch, is a good one It is a good plan to dissect up the conjunctiva so as to tuck the flap under, and stitch above and below

With regard to the length of time after they have been operated on, I have one case that I have watched for three years The eye does not look natural in every way, but the pterygium has not returned, and as it was a malignant case that had recurred five or six times, I was glad to get any kind of a result.

REGULAR CORNEAL ASTIGMATISM IS NOT ALWAYS CONGENITAL NEITHER IS IT UNCHANGEABLE

Presented to the Section on Ophthalmology at the Forty ninth Annual
Meeting of the American Medical Association held at
Denver, Colo June 7 10 1898

BY WILLIAM C BANE M D

Late Ophthalmologist to the Chair of Neurology and Chief Clinical
Assistant in Ophthalmology and Otology in the Medical Depart
ment of the University of Colorado Ophthalmologist
and Otologist to the House of the Good Shep
herd Oculist and Aurist to the
C R I & P Ry
DENVER COLO

That regular astigmatism of the cornea is not always congenital, is clearly stated in some of our standard text-books on ophthalmology Noyes (2d rev ed, p 111) states that "some rare cases of regular corneal astigmatism are acquired, but as a rule the affection is congenital" Schmidt Rimpler (3d ed p 84) believes "as a rule the affection is congenital" Berry (2d ed, p 543) says of astigmatism "The cause is mostly a difference in the curvature of different meridians of the cornea, a difference which may be congenital or acquired"

Hartridge (Refraction of the Eye, p 122) expresses the view "astigmatism is usually congenital, but may be acquired, and frequently there is some hereditary tendency' Henderson (Annals of Ophthalmology and Otology, Vol v, p 523) has reported one case of acquired regular corneal astigmatism The literature bearing on acquired regular corneal astigmatism is certainly very limited To be convinced that regular corneal astigmatism is not always congenital necessitates refractive work on the same persons for many years, during which re examinations of eyes are made, and the measurements compared The same rule applies as to the permanency or unchangeableness of regular corneal astigmatism, whether in amount or meridian I have selected two cases to illustrate the subject

Case 1 —Illustrating the Development of Regular Corneal Astigmatism E B, a girl, aged 10 years Referred by Dr Eskridge, Feb 18, 1892 History of pain in her eyes and frontal headache almost every day, while using her eyes for close work in school General health good

V R = 6/6 V L = 6/6 Pupils are equal and respond normally to light and accommodation Fields are normal Manifest 2° Esphoria

Accepts +0 50 s for each eye, with vision of 6/6 Radiating lines on the dial equal Homatropin used as a cycloplegic, under which V with +1 s R, and L = 6/6 At confirmatory test, two days later, +0 50 s was ordered for constant wear Patient returned Oct 21, 1893, twenty months after first examination, and complained that her eyes were not comfortable Another examination was made under homatropin and atropin, with the result that under the cycloplegic she accepted +1 s for each eye giving vision of 6/6 No manifestations of astigmatism On Sept 16, 1896, *four and one half years after the* first examination, patient returned complaining of her eyes aching upon use for close work and occasionally frontal headache She has developed rapidly, changing from girlhood to young womanhood

V R = 6/9 —, V L 6/12 + Pupils, accommodation and fields are normal Fundi are healthy in appearance Hotz' Astigmometer indicated 0 50 D astigmatism axis, 180° in each eye.

O D —0 50 c 180° 6/5 Lines on dial normal

O S —0 75 c 180° 6/6 Accommodation paralyzed with Wyeth's ophthalmic discs of homatropin and cocain

O D +0 75 s ⌢ — 0 50 c 180° 6/5

O S +0 75 s ⌢ —0 50 c 180° 6/6

After twenty four hours a confirmatory test was made and patient accepted —0 50 c 180° for each eye givin[illegible] r vision of 6/[illegible] and equalizing the lines on d[illegible] later the test was repeated, with exac[illegible] the above cylinders were ordered

This patient came under my [illegible]

gan wearing the cylinders, suffering with an attack of pharyngitis, at which time she reported that her eyes were comfortable, and that she had worn the spectacles constantly

Case 2 —Illustrating a Change in the Astigmatism, eight years elapsing between the examinations W J, aged 24 years Referred by Dr John Mahon of Allegheny City, Feb 11, 1889 History of indistinctness of vision, especially on reading, and occasional attacks of frontal headache after reading for about an hour The eyelids are inflamed and the margins thickened, some crusts adhering about the roots of the lashes

V R =6/6, L =6/6 Pupils equal and react normally to light and accommodation Fields for white normal

O D —0 50 c 165°=6/6
O S —0 60 c 15°=6/6

An eight grain solution of homatropin used as a cycloplegic

O D +0 50 s ⌒ —0 50 c 160° =6/6
O S +0 50 s ⌒ —0 75 c 10°=6/6

At confirmatory test he accepted

R —0 60 c 160°=6/6 Dial normal
L —0 75 c 10°=6/6 Dial normal

Prescribed two grain ointment of the yellow oxid of mercury for the blepharitis

On May 17, 1897, while in Pittsburg, W J came to me for re examination He stated that his eyes had not troubled him since 1889, when he began wearing the spectacles, until within the past year The blepharitis is well and has been for several years Recently he has experienced some aching of his eyes and pain in his right temple Vision less distinct than formerly

V R =6/10, L =6/20
O D —1 c 160°=6/6
O S —2 c 180°=6/6

Wyeth's discs of homatropin and cocain used as a cycloplegic

O D +0 50 s ⌒ —1 c 160°=6/6
O S +0 50 s ⌒ —2 c 180°=6/6

May 19, 1897, prescribed

O D —0 75 c 160°
O S —1 75 c 180°

The change that had occurred was a slight increase in the astigmatism in the right eye and one diopter increase in the left eye, with a change of ten degrees in the meridian of the left eye

The first case is one in which the astigmatism developed during the stage of rapid growth of the body It seems reasonable to me that we might expect some change in the shape or length of the eye, as occurs in other organs of the body during the period of rapid growth It is the age when myopia does develop and increase

It will be noted that both the cases I have reported are cases of myopic astigmatism The one reported by Dr Henderson changed from emmetropia to myopic astigmatism

One point naturally comes in here for consideration, i e, can we say to our patients under 40 years of age that no change will be required in their glasses until presbyopia becomes manifest? With me, and I presume it has been the experience of others, not a little of my refractive work has been the measurement of eyes that have already been measured by other physicians In not a few cases I have found that the glasses ordered for the patients were not suitable They may have been of the proper focus at the time ordered and the eyes have changed in the meantime Hence it becomes us to be on our guard to avoid criticising a brother practitioner's work, when our findings do not correspond

It is a question as to what proportion of the cases I have seen, that were not wearing proper glasses, was due to improper correction and what proportion due to changes in the eyes I know some physicians will hold that the errors in the class of cases I have reported were not corrected in full at first I admit such mistakes are made, and I presume I have made some of them We have cases of amblyopia, in which it is quite impossible to be positive of the accuracy of our correction, even with all the modern methods and appliances

If, with this brief presentation of the subject, we may have a free discussion of it by the members who have had an extensive experience in refractive work, and their views placed on record, my object in bringing this subject for your consideration will have been attained

Steele Block, 16th and Stout Sts

DISCUSSION

Dr F C **Hotz**, Chicago—The closing remark of the Doctor alludes to cases we have all seen that have gone through the hands of our colleagues, have been refracted by them, and in which we find that our examination would not confirm or sustain the prescription for glasses which the patient received at the former examination If the eyes have changed in a considerable number of these cases, it should certainly put us on our guard and keep our mouths shut as to what we think of the glasses the patient has When I read the title of the paper in the preliminary program it interested me particularly, because just at that time an old patient of mine had returned, showing a decided change in the astigmatism I therefore went over the records of this year and last in my case book to get an idea how many cases I might fish out that had returned The trouble is that a great many patients who consult us, if the glasses become unsatisfactory in time, go to some one else for the second examination, and we never know whether their astigmatism has changed or not I was surprised, though, in such short space of time, a few months more than a year, to come across a half dozen cases that I had examined years before, and in which a re examination now showed a marked and interesting change in the astigmatic condition The examination of the past had been made under mydriasis and the re examination was made under the same conditions If in the first instance atropin had been used I used the same in the re examination, and if at first it was homatropin, I used the same drug again, so the conditions of the examinations were absolutely the same, and if the results differed, it must have been due to change in the eye during the intervals In one of my cases examined in 1887 each eye then needed — 75 D cyl, and in 1897 each eye needed — 1 50 D cyl A second case shows a change from emmetropia to a high degree of myopic astigmatism In 1887 the patient, then 20 years of age, after recovery from an attack of iritis and while the eyes were still under the full effect of a mydriatic, showed emmetropia In 1889 the left eye showed a myopia of 6 D with astigmatism of — 3 50 D cyl ax 15 In the spring of this year the condition has changed to a myopia of 7 50 D in one eye, with —5 D cyl ax 15

A third case shows in 1890, right eye required + 3 D cyl In 1893 it required a — 1 D s with + 4 D cyl, and in 1897 — 2 D s with + 5 D cyl, showing that while one meridian retained its hypermetropia, the other became myopic Then I came across three cases in which hypermetropic astigmatism had increased This is most remarkable, because we know from statistics that if the eye is changed during school life, the tendency is to develop myopic conditions

Dr G C **Savage**, Nashville—On my arrival I told Dr Bane that he had made but one omission, and that was in leaving out the ophthalmometric measurements That these changes take place no one can deny, but where it takes place is a matter undecided In the first place allow me to say there is one of my patients who has never been able to get away from me, that is myself In Philadelphia where they do refraction work to perfection, I was given a — 50D cyl and a little later I found I was not fully corrected until I used a —1 50D cyl axis vertical A little later I found still more, and nine years ago the first ophthalmometer I ever saw, in the office of Dr Swan N Bur nett, showed —2.25D cyl in each eye I am wearing that glass to the present time - What does this mean? I believe the radiating fibers of the ciliary body help to correct the astigmatism, and that they are not under the control of the third nerve I do not believe they are reached by the mydriatics, and hence it is impossible to control them except by teasing out the astigmatism A slight contraction of the meridianal fibers will tilt the lens one way and those of another portion will tilt it another direction, and astigmatism is increased at right angles to this tilting ' I think my case and others which I have observed, show that we have seldom, if ever, any increase of the corneal astigmatism, but that the increase is due to tilting of the lens, and we must tease this out until we get the maximum of astigmatism, when a given lens will serve its purpose forever

Dr H V **Wurdemann**, Milwaukee—I wish to mention one factor in the correction of astigmatism that has not been spoken of, that is lid pressure We all know that intense blepharospasm or a chalazion will produce astigmatism, which after the spasm or pressure has been relieved, passes away Now there are some patients with astigmatism against the rule, who are in the habit of correcting it in part by lid pressure We totally correct the astigmatism as it appears and we find the patients relieved, but if we examine them later we find a recurrence of astigmatism, the elasticity of the cornea having asserted itself, and instead of, say 2 diopters of corneal astigmatism, we find 3 or 3½ to correct

Dr T A **Grigg**, Butte, Mont —I have listened to these papers with much interest and can not wholly agree with most of the speakers on the subject My opinion is that the astigmatism that has not been fully corrected It was there, and the mydriatic, homatropin or atropin has not been used in sufficient quantity, or not long enough to overcome the defect Again, in young people the elasticity of the lens is great, and you will often see those people that have a considerable amount of astigmatism, as much as 2 or 3 diopters, who before you used any mydriatic in the eye could possibly read 6/6 quite distinctly and who after you have used the mydriatic could not read more than about half that amount, and at the same time you would not have fully overcome the ciliary muscle One of the gentlemen spoke of using tablets of cocain and homatropin It has been my experience in using cocain that it produces an astigmatism itself, that it acts upon the corneal epithelium and gives, as it were, a false astigmatism I know that in old people past 45, where I was timid about using atropin and used cocain, so as not to produce a glaucomatous condition, I have produced an irregular astigmatism, which I could not bring out later on when I tried again to refract the eyes I think if the physicians present today will watch their cases where they use cocain to dilate the pupil and overcome the action of the ciliary muscle, and will later on refract these eyes again they will note entirely different results I remember an aphorism I read in a little book, I think written by Dr Fox of Philadelphia, which is that astigmatism is an invisible and subtle child of the devil, whose hiding place is the ciliary muscle of the eye, and he is said to hate atropia as his father hates holy water

Dr **Minney**—I have noted this difficulty ever since I began to practice ophthalmology, and I supposed it was due to two causes, first, because I had not the ability to fit these patients, and, second, because some changes did take place I do not know why these changes can not take place, and I think we must believe that they do

Dr J L **Thompson**, Indianapolis—The gentleman is correct about that, and I am not surprised at anything that can take place in the eye It is true that if I took one out I should be surprised to see it grow in again, but nothing short of that would astonish me I have seen cases that I examined years ago and gave them plus cylinders, and when examined again ten or fifteen years later, I found that they had changed from positive to negative astigmatism You will see some gentlemen writing today that they can calculate, in cases of myopia where they propose to remove the lens, what glasses the patient will have to wear afterward They know nothing about it One can not make such mathematical calculations for the human eye

Dr **Edward Jackson**, Denver—The subject brought before us is one well worthy of study, and when we have accumulated enough definite facts bearing upon it, we shall know a great deal more about the changes that lead to astigmatism, and the ways of influencing it aside from correction by glasses In 1890 I reported to the American Ophthalmological Society, a series of 18 cases of increase in hypermetropic astigmatism I was interested in the subject first by my own case, which was similar to that of Dr Savage There was no question, I think, as to the refraction at the first measurement My eyes were measured repeatedly in experimenting with different mydriatics, requiring 50D cyl for one eye and 75D cyl for the other After two or three years of hard eye work with a microscope, etc , I found something wrong with my glasses and an examination then showed that the astigmatism had increased to 1 25D in each eye Two or three years later they showed 1 75D in one eye and 2D in the other That was over eight years ago, and it has remained entirely constant since that time, though I have been examined within the last year

My earlier histories of such cases are not good, because I did not then use the ophthalmometer in all cases But I can say now that these changes in astigmatism do not depend in all cases upon change in the cornea, nor are they in all cases independent of this Perhaps the ophthalmometer will be of some value in practice for this purpose I hold it to be of very little practical value unless it will be in this way, to follow up and detect the changes in the cornea Astigmatism against the rule is more apt to arise after the age of fifty than before, which looks as if these cases were dependent upon some change in the shape of the lens, or its position, I think likely the latter

Dr H B **Young**, Burlington—With one exception I believe I am a doubting Thomas in regard to this change and I would like to remind Drs Savage and Jackson that in their arguments I think they proved the opposite of what they intended They stated that when they got to a certain point their astigmatism remained steady If the conditions were changing, why did they stop eight or nine years ago

It has been my fortune to examine quite a number of cases of what is popularly known as second sight, the refusal of glasses by people of 60 or 70 years of age, who have been using glasses previously In examining nearly all of those cases I have found beginning opacity in the periphery of the lens and all showed a development of astigmatism against the rule We find an astigmatism of this kind after operating upon cataract and the question arises in my mind whether that is purely an aphakic astigmatism that we see after cataract operation

Dr C E **Norton**, Lewiston, Me —Some years ago I had a case that bears on this point and I am sorry that I can not at present give the exact facts concerning it It was a young man who came to me with a difficult error of refraction and on examination I gave glasses that were satisfactory for some time He came to my office later with a chalazion of the lid, not giving him any pain, but he was prepared to find his sight in that eye defective and thought he could not see distinctly with the old glasses I had given him In my first examination I had used the ophthalmometer and had a record of the findings In the second examination, in which I also used the ophthalmometer, I found that there had been a change in the corneal astigmatism, but having about that time read of a similar case I thought it possible that this might be due to pressure of the tumor and suggested that we operate on the lid before making any change in the glasses This was done, and in the course of a few weeks his vision had improved and the ophthalmometer showed the same record it did in the first examination I do not remember where I read the account of the tumor in the lid that changed the corneal astigmatism

I think this question opens a field for investigation and I do believe that in the ophthalmometer we have an instrument of great accuracy in estimating the corneal astigmatism and I think this study of Dr Jackson's will be extremely interesting I differ with him as to the practical value of the ophthamometer in office work for I use it constantly and feel that it is one of the most important instruments that I have It is well known that many of the New York oculists have much faith in it, while the Philadelphia men, as a rule, have none

Dr **Henry Gradle**, Chicago—I would like to quote the most extreme change in the degree of astigmatism I have witnessed A girl of seventeen years, examined in 1892, showed a myopic astigmatism of 1 50 D cyl ax 180 The tests were so decisive and the vision so perfect (-%o corrected) that no mydriatic was used and the patient was fully satisfied with the glasses She returned in 1894, stating that the old complaint had returned, but she had been free from discomfort for four years I found now 4 50 D cyl with the rule and with the best correction scarcely more than 2%o vision Under a mydriatic the astigmatism remained the same, but 1 D of hypermetropia in the opposite meridian was brought out making the refraction now=Sph +1 with Cyl —4 5, axis horizontal

I have seen two instances where astigmatism had been produced by the pressure of a chalazion and where the subjective findings changed completely within two weeks after removal of the tumor

Dr **Bane**—The facts that I wanted have been brought out Certainly the remarks that have been made prove that astigmatism does change, both in amount and its meridian As to the latent astigmatism theory, I think it is hardly tenable The gentlemen who have spoken have nearly all used mydriatics to an extent which would have brought it out if it were present

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THE CONSERVATIVE TREATMENT OF EPIPHORA AND AFFECTIONS OF THE LACHRYMAL APPARATUS

Presented to the Section on Ophthalmology, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo, June 7-10 1898

BY S D RISLEY, M D
PHILADELPHIA

It is the purpose of this paper to urge the importance and value of conservatism in the treatment of lachrymal obstruction The ophthalmic surgeon meets with no more numerous, annoying or persistent class of affections than those involving the lachrymal apparatus, especially that part constituting the drainage system Pathologic processes affecting any portion of this delicate apparatus lead to a partial or complete closure of its lumen and thus obstruct the flow of tears from the eye into the nose The symptoms of lachrymal retention and the secondary consequences are too well known to require any extensive recital It should however be borne in mind that the ocular affections which often precede or cause the disease of the lachrymal passages, become chronic and persist against all measures of treatment by virtue of the evil results of the retained tears, thus constituting a vicious circle, to be broken only by the judicious treatment of the lachrymal obstruction The retention of tears may be partial or complete, bearing more or less definite relation to the degree of obstruction in the drainage system Partial closure of some portion of the duct may exist and cause no notable obstruction to the outflow of the tears except under circumstances which increase the requirements by producing excessive secretion, e g when the emotions are excited or on exposure to strong winds or irritants, or by the still further contraction of the tissues caused by exposure to cold These minor cases of partial retention are doubtless frequently overlooked, and the eye treated by washes and astringents directed to the cure of mild forms of chronic conjunctivitis caused by the retained tears The obstruction may be at any part of the drainage system, e g at the puncta, one or both, in the canaliculi, lachrymal sac, or nasal duct, or, by a closure of the duct at its nasal orifice from swelling of the tissues overlying the inferior turbinated bones

A very frequent cause of partial retention is a more or less complete obliteration of the inferior punctum, or a narrowing of the lumen of the canaliculus, the sac and nasal duct being normally patulous In these cases it is usually necessary only to dilate the punctum, or punctum and canaliculus by a delicate needle probe, a single dilation often effecting a cure It should be done without sufficient violence to set up inflammatory reaction, which might increase instead of relieving the contraction If the trouble is in the punctum alone it is occasionally necessary to cut its sphincter muscle, and thus to convert it into a slit Where the obstruction is confined to the punctum or canaliculus it is obviously unnecessary to subject the patient to the annoyance and pain of probing the nasal duct The absence of obstruction in the sac or nasal duct can be determined by the ready flow of a stream of warm boric acid, or salt solution, injected through the dilated punctum or canaliculus, by inserting the fine point of a suitable syringe If the solution flows freely into the nose it is obvious that the sac and nasal duct are patulous, but should it flow backward into the conjunctival sac through the upper canaliculus it is equally plain that these passages are occluded and some estimate as to the locality of the obstruction may be made by the quantity of fluid injected before the return current is observed A fine bulbous probe may then be inserted, without slitting the canaliculus, in order to explore the passage If it passes through the duct readily, meeting with obstruction only at the nasal orifice, the nasal passages should then be carefully studied and any existing disease properly treated A few cases of lachrymal retention need no other treatment than to free the nasal end of the duct from existing synechia between the inferior turbinate and the floor of the nose, or from hypertrophy of the mucous membrane surrounding its orifice My attention was first called to the importance of nasal disease in causing lachrymal obstruction in 1879 I had treated a gentleman for many weeks quite unsuccessfully by probing the duct, after slitting the canaliculus He called my attention to some discomfort he was suffering in the nostril of the same side A superficial ulcer was discovered on the floor of the nose which spread itself into the region of exit of the nasal duct After careful cleansing this was painted with a solution of nitrate of silver He returned on the second day with the ulcer quite healed, and his lachrymal retention cured In some cases therefore it is important to explore the nostril before adopting radical measures addressed directly to the lachrymal apparatus In my experience these cases of nasal disease furnish a relatively small percentage of the cases of the retention of the tears but are still sufficiently common to suggest a routine study of the nose in all cases. The obstruction exists however, in the vast majority of cases, in some portion of the nasal duct and usually at or near its upper end. Considerable variety is presented both as to the degree of obstruction presented to the flow of the tears, and the nature and extent of the constriction in the duct. These variations manifest themselves in the symptoms and history of the affection, and to the prudent surgeon suggest widely differing methods of treatment. In a comparatively limited group of patients I have found a thin paper-like stricture situated at the bottom of the lachrymal sac, and spreading itself like a membrane over the orifice of the bony nasal duct, effectually preventing the exit of the tears. In these cases a fine Bowman's probe can be forced through the membrane, and the rent thus made may be dilated afterward by successively larger probes, but the stretching or dilation affords only temporary relief since the membrane very soon contracts again and the obstruction is once more complete, the membrane becoming thicker, more dense and unyielding with each repetition of the procedure. This group of patients furnish the only examples where cutting operations are justifiable or efficient for permanent relief. A probe pointed knife, much after the pattern of the Webber's canaliculus knife, but with a longer shank, which should be ductile, is suitable for cutting the membrane. Dr. H. C. Thomas of Philadelphia, exhibited such a knife to the Section at its Detroit meeting in 1892. Its probe point can be pressed through the constricting membrane and the knife made to follow, enlarging the opening by incision. By slightly turning the instrument on its long axis, a second incision can be made on withdrawing it. The process can be repeated in different diameters of the duct as often as desired. After the blood clots are washed away, a Bowman's probe sufficiently large to fit the lumen of the duct snugly should be inserted and allowed to remain for half an hour. When withdrawn the duct should be washed again with a boric acid solution. On the second day the probe may again be introduced and allowed to remain for half an hour. This will in some instances suffice to effect a cure, but the duct should be subjected to occasional inspection by syringing or gentle probing, in order to anticipate any tendency to recurrence. This class of cases have however, in my experience been comparatively rare.

The cases where the obstruction is found in some portion of the bony duct have been far more numerous than any other variety, the next in frequency being located at the inferior punctum or in the canaliculus. Statistics on this point however, as far as I know, are wanting. The obstruction in the nasal duct is as a rule due to a more or less extended narrowing of the lumen of the duct by a thickening of the soft tissues which line its bony walls. The readiness with which, in some individuals, the duct may be entirely closed or its caliber so diminished as to obstruct the flow of tears, will be made manifest by any study of numerous dried or frozen preparations of the bony duct. Such a study reveals great variety in the size and contour of its walls. The irregularities in the surface of the osseous walls of the nasal duct in many individuals obviously render them especially liable to its ready obstruction from even a slight thickening of the lining membrane. While the duct may be large and even abnormally capacious in some parts of its course, forming lake like expansions, in other portions bony projections or irregularities of surface contract its diameters to a narrow channel or a mere slit or produce a tortuosity of its course which explains the difficulty which is often experienced in passing a probe into the nose, even in cases where fluids pass quite readily. The probability of these anatomic peculiarities being present in any case of lachrymal retention should always be borne in mind, and in the adoption of methods of treatment should suggest conservatism in surgical interference. Any violent effort to force a probe through the canal in these cases may very readily cause a traumatism far more serious in its results than the disease we are attempting to cure. If, for example, the canal is tortuous, or if ledges of bone project from its walls the end of the probe is liable to infringe upon the bony surface, and attempts to force it onward are likely to cause a tear in the lining membrane which will allow the probe to pass between the soft tissues and the bone. If these tissues are already the subject of chronic inflammation and thickening, the acute exacerbation caused by the traumatism, and the accumulation of coagulated blood between the bone and mucous membrane lead to increased thickening and a still more complete retention of the tears above the obstruction. I believe that more or less serious injury is often done in this way by converting comparatively simple cases of retention into practically incurable obstruction of the duct. After this accident the most careful manipulation is required in order to prevent its recurrence at every subsequent attempt to probe the duct. When it occurs the grating of the probe against the bone and the subsequent bleeding are sufficient evidence of the accident and no further attempt to pass the probe should be made until the wound has had sufficient time to heal. The duct should, however, be carefully and repeatedly cleansed by warm aseptic and slightly astringent solutions. In long-standing cases the lining membranes of the duct often seem not only thickened, but spongy and friable, so that it is extremely liable to be torn or perforated, especially if too small probes are employed. The size of the probe to be selected is of much importance. The great variation in the size of the osseous duct in different subjects suggests caution at this point. If too large a probe is forced through the passage, not only may the inflamed and friable membranes covering its wall be torn away and driven before the end of the probe, but the fragile projections of bone which encroach upon its lumen may be fractured. This certainly can be necessary in very few instances, if ever, and the results following such violence may be of more serious moment than the original disease. That this accident is probable as the result of using too large probes I demonstrated before the Medical Society of the State of Pennsylvania in 1878. In a group of skulls sent to me by the late Prof. Harrison Allen, there were two in which the nasal ducts were too small to admit the smallest of a series of large aluminum probes, and not one of them would admit the largest probe of the series without a fracture. It may be argued that such a fracture need not be a serious contingent or even that such an enlargement of the bony duct might not be necessary to effect a cure. I can conceive of cases of total obstruction where this might be preferable to obliteration of the lachrymal sac, or to consignment of the patient to life long stillicidium with the ever present liability to recurring attacks of acute blennorrhea, or of phlegmon of the sac, but under all ordinary circumstances such violence should certainly be avoided

The violent methods too frequently pursued in the surgical treatment of lachrymal obstruction, as in cutting operations and in the forcible passing of very large or conical probes, seems to the writer to be based upon a misconception of the *physiologic function* of the parts While the function of the apparatus is to drain the eye of tears, the duct is not in health an open drain pipe through which the tears flow by gravity, but is a delicate pump, the pumping force being the act of winking This delicate function is disturbed or destroyed by any operation, which opens widely the inferior and common canaliculus up to the entrance into the sac, and converts the nasal duct into a permanently broad, open tube It gives ready access for air from the nasal passages to the eye so that in the act of blowing the nose the contents of the duct are forced back into the conjunctival sac The design should be to cause the disappearance by absorption of the thickened or hypertrophied soft tissues which produce the obstruction to the normal exit of the tears In comparatively acute cases, that is to say, when the obstruction is of recent origin the existing pathologic conditions may frequently be cured by the same methods adopted in the treatment of analogous conditions of the conjunctiva, viz , by the use of aseptic washes and mild astringents After dilating the punctum the fine nozzle of a syringe may be introduced and a few drops of a 4 per cent solution of cocain introduced into the sac, and if possible, forced through the nasal duct If the latter is not possible at first it may become so in a few moments by virtue of the shrinking of the swollen and congested tissues through the action of cocain The sac and duct may then be thoroughly washed with a warm saturated solution of boracic acid, or other wash, e g an alkalin antiseptic solution, Dobell's solution, etc After this has been accomplished a few drops of a solution of sulphate of zinc gr ii to f℥i or a silver nitrate solution gr i to f℥i may be introduced The patient should then receive a wash *to be employed at home*, and be instructed to instill it freely into the conjunctival sac, after emptying the lachrymal sac by pressure, and then by rapidly winking, pump it into the sac and again empty it by pressure This can be repeated again and again, three or four times daily between the office visits I have many times, in cases of brief duration, succeeded in effecting a cure by this simple means and have thus avoided any mutilation of the apparatus and caused no pain to my patient A few drops of a solution of cocain prevents pain even from any necessary dilatation of the punctum In chronic cases, however, attended with more or less blennorrhea of the lachrymal sac, with much thickening and sponginess of its walls, and showing well-marked and rigid stricture of the nasal duct, the treatment required is quite different and much more exacting and tedious

In my experience, however, cutting operations are followed by only temporary relief and a subsequent contraction which makes the stricture worse than before, unless a style is introduced and worn until the tube is converted into a patulous drain pipe, through the complete atrophy and change of the tissue by pressure This I think should be avoided, and fortunately in the majority of cases is not necessary In a few instances I have found this the only recourse, but such cases are certainly rare

The object in view in cases of closure through hypertrophy of the lining tissues of the duct is to cause the absorption of the thickened tissue and at the same time to remove the inflammatory conditions which are still present As long as the duct is closed entirely or partially we have to contend with one of these vicious surgical circles It is futile to endeavor to cure the inflammation of the conjunctiva, lachrymal sac and duct as long as the tears are retained It becomes necessary therefore to open the duct so that the tears can flow away This can be temporarily effected, usually by passing a suitable probe through the duct into the nose The method devised by Mr Bowman is the best thus far devised

A probe sufficiently large to pass snugly through the constricted area should be cautiously passed, after the instillation of a few drops of cocain solution, and allowed to remain twenty to thirty minutes The patient soon experiences an increasing sense of pressure and throbbing The attempt to withdraw the probe will usually require more force than was needed for its insertion The duct should then be flooded with a suitable wash, followed by an astringent The theory for such treatment is the gradual absorption of the hypertrophy by pressure of the thickened tissue between the probe and the walls of the duct The absorption is in some instances aided by washing the duct with a weak solution of iodin This solution can be readily made as needed by dropping Lugol's solution of iodin into distilled water, until it assumes a light wine color In many patients the treatment may be repeated with benefit on alternate days, while others require longer intervals of rest That these conservative measures of treatment are successful in the majority of patients I have had abundant opportunity to demonstrate When success is not reached it will be found that some marked anatomic defect is present in the duct itself or that the turgidity of the soft tissues is maintained by pressure through anatomic defects or pathologic conditions in the nose, or, that some constitutional vice is present In such cases *treatment must be addressed to these collateral* conditions before a cure can be expected

In a large group of cases the congested state of the lachrymal drainage system seems to depend upon eye strain due to refraction errors, or abnormalities of ocular balance, the turgescence of the membrane lining the duct being common with that of the caruncles, the conjunctiva and the intraocular membranes I have many times seen the lachrymal retention disappear with the cure of the intraocular conditions by treatment and the use of correcting glasses without *any treatment addressed directly to the lachrymal* apparatus

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COLPOPERINEORRHAPHY AND THE STRUCTURES INVOLVED

DEDICATED TO DR THOMAS ADDIS EMMET AND MR LAWSON TAIT
IN RECOGNITION OF THEIR LABORS IN THE SURGERY
OF THE PERINEUM

BY BYRON ROBINSON, B S , M D
CHICAGO ILL

Continued from page 650

In 1887 Dr Hadra of Texas contributed some valuable articles on the subject of perineorrhaphy He suggested vivisection of the posterior vaginal wall for colporrhaphy, as is done in anterior colporrhaphy Since 1880, the laborers in the field are legion Gradually the operation of perineorrhaphy was modified from Paré, Baker-Brown Dieffenbach, Langenbeck and Simon to Tait and Emmet The modification consisted in denuding not only the perineal tears, but also denuding higher up in the posterior vaginal wall Hildebrandt especially carried the denudation well up into the posterior vaginal wall

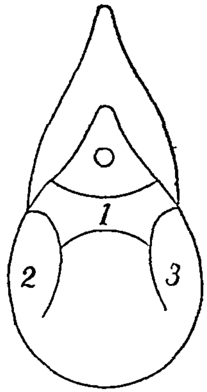

Fig 18A —Emmet's operation (elytrorrhaphy posterior) for prolapse 1 and 2 show the lines of union of denuded surfaces in the vaginal sulci on each side of the vaginal column 3 which still remains

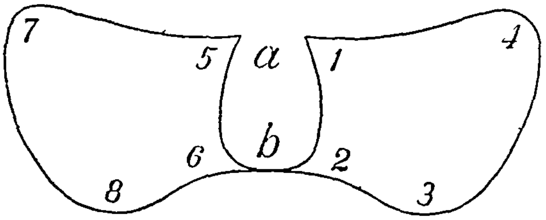

Fig 18B —Staude's operation (elytrorrhaphy posterior) for prolapse 1 2 3, 4, and 5, 6 7, 8, represent the denuded vaginal sulci *a b* shows the intact column, which is utilized in coaptation and fixation of the denuded surfaces The principle of saving and utilizing the column is the same as in Martin's and Emmet's operation

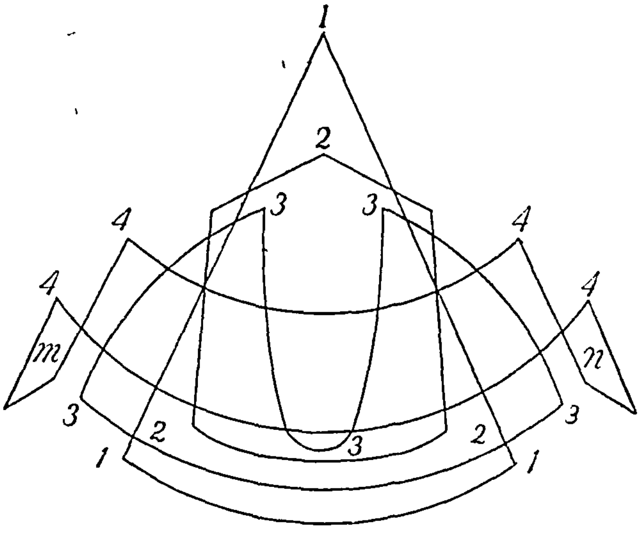

Fig 18C —Various shapes of the denudation in posterior elytror rhaphy represented by superimposed diagrams 1 1 1 Hegar's 2 2 2 Simon's 3 3, 3 Bischoff s, 4, 4 4 *m*, *n* Winckel's *Observe that Bischoff* saves the column

As regards suture material, Sims, Thomas, Emmet and others worked out the application of metallic wire to plastic labors on the perineum during the past thirty years The modern tendency is to use silkworm gut as a non-absorbable suture This may be left weeks in a wound, and acts as a splint in coapting the surfaces It is easy to remove To Dr T A Emmet is due the credit of introducing a method of perineorrhaphy which, until recently, was the one generally practiced in America In 1883 Dr Emmet published a new method, or rather a modification of his old operation Dr Emmet denudes the sulci on each side of the vagina and extends the perineum forward His operation is intended to repair perineal fascia and muscles Dr Emmet holds that loss of support following laceration is not due to injury of the perineal body The loss of support after childbirth, he claims is due to rupture of perineal muscles and fascia Dr Emmet's operation is difficult to make clear by description, but it consists in lateral denudation wholly within the vagina to such an extent that when the sutures introduced are drawn tight, the excess or slack in the posterior vaginal wall disappears The ostium vaginæ is not interfered with by any special denudation The claim of his operation is that discomfort disappears immediately after, and also that the posterior vaginal wall is brought in proper position and relation to the anterior wall, as it is in the normal condition The view contained in the surgical procedure is that the perineal body is insignificant in support, and that laceration of it alone impairs but little the integrity of the genital supports But the tearing or excessive stretching of the perineal muscles and fascia at their attachments to the genitals quickly disturbs the delicate balance of the pelvic organs There is one point against Dr Emmet's operation, and that is the relatively blind method of introducing the higher sutures In other words, the deep layers of the lacerated pelvic fascia may not be included in the sutures with any degree of certainty Dr Gillwyly added the idea that Dr Emmet's operation would be improved by denuding the posterior vaginal wall a considerable distance and then continuing the denudation well up into the posterior vaginal sulci This method, however, sacrifices a larger amount of posterior vaginal wall

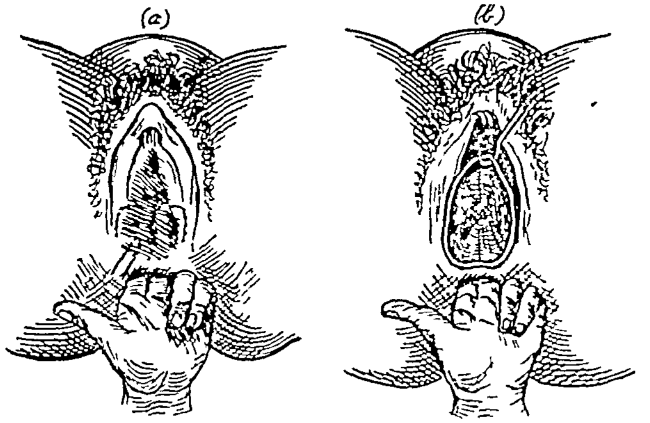

Fig 19 *a* and *b* —Dr Jenks' method (flap) of perineorrhaphy The flap splitting is executed with two fingers in the rectum, and a scalpel In *a* the flap is marked out by a dotted line in *b* the flap is completed ready for suturing

About 1872 Mr Lawson Tait of Birmingham, England, began to introduce a method of perineorrhaphy known as the flap method It differed from all others in that he used elbow scissors and introduced the very deep sutures without penetrating the skin or mucous membrane It involved no loss of tissue The direction for doing the Tait operation is to resplit the old cicatrix It is modified according to the condition of the case, as one may produce anterior and posterior cuts Tait's flap perineorrhaphy is now quite generally practiced I have not attempted to give all known historic methods of perineorrhaphy, but simply the chief ones out of which has been built the modern operation

GENERAL INDICATIONS FOR PERINEORRHAPHY

1 To restore rectal and vaginal functions

2 To restore pelvic fasciæ and muscles Normal fascia is required for normal circulation

3 To restore the normal relation and support of the posterior wall (colporrhaphy posterior) The posterior vaginal wall sustains the anterior vaginal wall and bladder

4 To provide as much support for the pelvic organs as the restoration of the perineal body will afford

5 To remove the neurasthenic conditions, to relieve the innumerable nervous associations, in short to relieve mental and physical disturbances

6 To repair and check sacropubic hernia

7 To narrow relaxed pelvic outlet

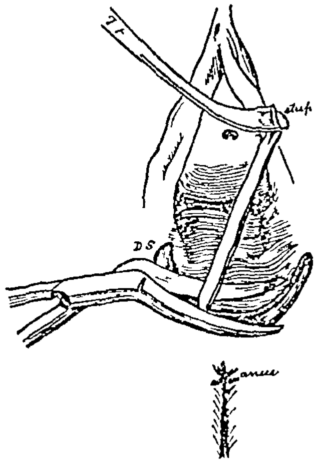

Fig 20 —Method of denudation of vaginal strips, with curved scissors from one side of the vagina to the other, as suggested by Dr Skene

The pelvic floor is closed from behind forward by the pyriformis with its thin, delicate fascia, the firm sacrorectal ligaments, the coccygeus with its moderately strong fascia, the levator ani muscle with its levator ani fascia superior and inferior, a strong double fibrous protective muscular sheath, and also the triangular ligament, a powerful layer of fibrous tissue The coccygeus with its fascia, the levator ani with its double fascia and the triangular ligament practically constitute the pelvic floor and seem to separate the pelvic cavity from the perineum These are essential structures in colpoperineorrhaphy The levator ani fascia (both layers) pass from the side of the pelvis to the viscera, firmly attaching themselves to every pelvic organ, forming the strong, fibrous expansions known as ligaments, which serve to hold the pelvic viscera in definite fixed relations In perineorrhaphy, success depends on the restoration of these vital supports, a significant anatomic fact in pelvic pathology is that the blood-vessels lie superior to the pelvic fascia and the nerves inferior to it The blood-vessels which arrive in the perineal region pierce the pelvic fascia and pass chiefly out of the great sacrosciatic notch

The levator ani fascia, superior and inferior, is an important structure to limit infection It separates the ischiorectal fossa from the pelvic cavity proper where so much loose tissue exists The levator ani fascia is pierced by vessels and nerves, and these vessels and nerves are surrounded by lymphatic sheaths which are a source or path by which the infection may travel from the pelvis to the ischiorectal fossa, and vice versa In perineorrhaphy the levator ani fascia, superior and inferior, is incised The operation which is performed for the restoration of the perineum exists under different names It may be termed perineorrhaphy, perineo-vaginal restoration, perineal extension, perineauxesis, or the flap method However, I think the best name is colpoperineorrhaphy Colpoperineorrhaphy is an operation to restore the integrity of the supports of the sexual organs. These supports include those of the peritoneum and vaginal sphincter apparatus

The perineal body is situated between the lower end of the vagina and the rectum Difference of opinion still prevails as to the utility of the perineal body in the economy of the female genitals, but, from many dissections and considerable work on the subject, I claim the following functions for the perineal body

1 It sustains the lower ends of the anterior rectal wall and posterior vaginal wall

2 It supports and directs the discharging end of the vagina forward, aided by the triangular ligaments and levator ani

3 It supports and directs the discharging end of the rectum backward, the rectum is directed backward by the levator ani muscle

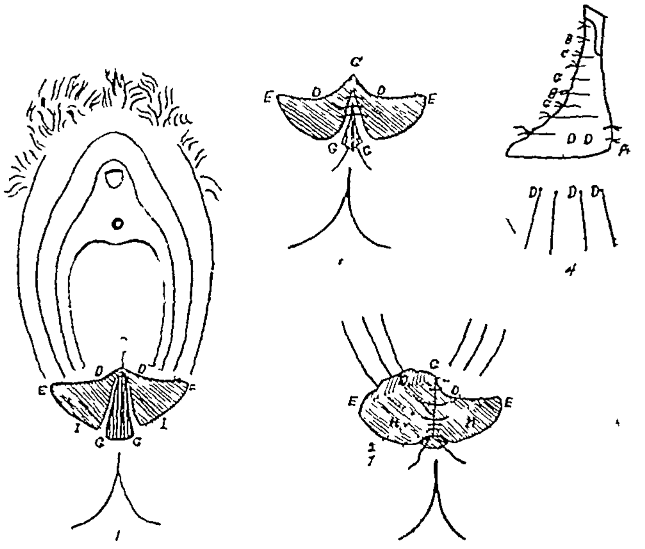

Fig 21 —(After Pozzi) LeFort s (1889) method which is similar to Demarquay's (1864 1875) and Richert s An incision is made in the vagina at the point C in the median line down to the rectum, then an incision is made along the line C D E another line C G is carried along the rectal wall but not into the rectal mucosa another line joins it by means of E I G this makes a distinct triangle H (seen in No 3) the cicatricial tissue is removed from the triangle H and also the portion of the vaginal wall, marked D is seized and dissected from the rectal the space denuded is D and H (No 3) the sutures are introduced as shown in Nos 2 and 3 The disposition of the sutures are noted in No 4 The operation is a partial flap method, but *too complicated for ordinary practice*

4 It not only keeps the discharging ends of the rectum and vagina widely apart, but it gives both a support in a curved direction at their termination, thus affording mechanical advantages for maintaining closure of both apertures and preventing the easy escape of the contents of either canal The wide divergence of the two canals avoids mingling of the secretions and consequent irritation from decomposition The backward hook of the rectum and the forward hook of the vagina is an important factor in support, and prevents gaping The perineum is the skin between anus and vagina The perineal body consists of skin, fat, muscles, fascia, elastic tissue, and connective tissue The perineal body as a support in itself for the genital organs has been much overestimated

5 It serves as the point of union of four muscles: the levator ani, the sphincter ani, the bulbo-caverno-

sus, and the transversus perinei. It serves also as a point of union of the various fasciæ.

6. It acts as a partial support of the pelvic floor.

7. It strengthens a tried point in labor.

8. Laceration of the perineum to any considerable extent destroys the nice balance between anatomic structure and physiologic function in the female genitals.

The object of perineorrhaphy is: To restore partial ruptures, to restore rectal functions after complete ruptures, to prevent prolapse of the pubic segment of the pelvic floor.

The methods of performing perineorrhaphy are denudation with fixed coaptation, and the flap method. The etiologic factors of lacerations are labor, coitus and trauma. Partial laceration of the perineum may be accompanied by vulvar patency, increased vaginal secretions, irritability of parts, pathologic condition of nerve structure, neuralgic or neurotic conditions induced by long continued local lesions, descent (distentions) of anterior rectal wall, posterior vaginal wall, and the uterus. Complete laceration of the perineum may be accompanied by vulvar and anal patency, increased vaginal and rectal secretions, incontinence of bowel contents and occasionally of bladder contents, irritability and disease of the surrounding parts from the abnormal secretions, neuralgic and neurosal conditions from changes in nerve structures, melancholia (neurasthenia), relaxation of the displaceable segment of the pelvic floor and consequent prolapse or hernia of the pubic segment. The result may be severe congestions from a disturbance of the fascia which holds the blood-vessels in relation. If the blood-vessels become distorted in their bed, disturbed circulation results.

In discussing the operation for colopermeorrhaphy by Dr. Thomas Addis Emmet and Mr. Lawson Tait, I shall consider these both founded on anatomic principles, both practical and successful operations, and both arriving at the same end by different methods. However, since I can accomplish by a flap method exactly what Dr. Emmet accomplishes by denudation, I have preferred to follow the flap procedure. I have employed the flap method for over six years, comprising over one hundred operations performed for almost all kinds of perineal laceration and uterine prolapse. In one case the uterus was completely prolapsed for fourteen years. Another case with laceration extending up the rectum the length of the index finger of thirty four years' standing was operated successfully after three previous denuding operations. A third case was lacerated up the rectum for four inches, of twenty-eight years' standing, and had passed through three unsuccessful operations. One of twenty-seven years' standing, with three-inch rectal laceration, and one very different case of seven years' standing, with several unsuccessful operations by well known gynecologists were operated on with perfect success. In these cases of long standing, atrophy was so far advanced from limited blood supply and non use that it required extensive flaps in order to secure tissue for a perineal body. To show that the perineal body is not significant in uterine support several of those patients continued for over twenty seven years with laceration several inches up the rectum, with scarcely a symptom of uterine prolapse.

It will be observed from even a superficial experience that the patient should be properly prepared for colpoperineorrhaphy. If the patient have a long, pointed cervix, which acts like a conic wedge being driven downward at every breath or increase of intra-abdominal pressure, it will constantly dilate the vaginal sphincter apparatus and should be amputated. The amputation may produce involution of the uterus. A long, pointed, conical cervix generally has behind it a retroverted uterus which precedes prolapse.

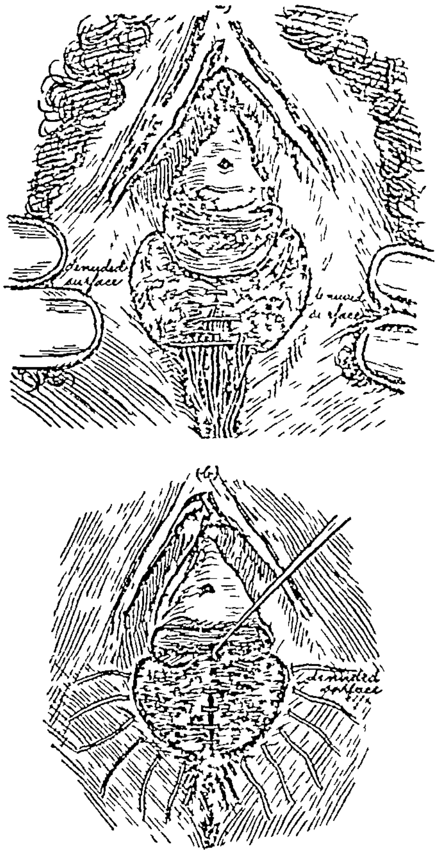

Fig. 22 *a* and *b*.—Dr. Skene's method of denudation and suturing the rectum.

Again, if there is a cystocele the patient should be prepared by an anterior colporrhaphy. It may be amputation of the cervix and anterior colporrhaphy can be done at the same sitting and anesthesia as the flap splitting colpoperineorrhaphy. We frequently perform colporrhaphy and colpoperineorrhaphy at the same time. To require cervical amputation is rather rare, but if there be a retroverted uterus with pointed cervix it should be amputated and turned backward against the sacrum. In short we must imitate nature as much as possible to secure success. All hernia is the same, it is due to the destruction of normal valves and the straightening out of oblique canals. Hence in sacropubic hernia the normal obliquity of the vaginal canal must be restored. Colpoperineorrhaphy restores the posterior vaginal wall and anterior colporrhaphy restores the anterior vaginal wall. This is not often needed if the colpoperineorraphy be thoroughly performed. Prolapse is prevented by perineorrhaphy, elytrorrhaphy, episiorrhaphy (or some abdominal operation). Prolapse may be considered as a downward displacement of the pubic segment of the pelvic floor; the sacral segment of the pelvic floor shares in it by a yielding of some of its parts. There are so many varied opinions as to the etiology of prolapse that one can safely say the subject is not fully settled. In my opinion [illegible] due [illegible] Hart and Barbour for [illegible] on the structural anatomy of the pelvic floor After considerable careful dissection I feel quite sure that many previous views must be changed, but it is hopeful when the closest and most continued students of the pelvic floor come nearly to the same conclusion The subject of prolapse, I think, should be studied out anatomically and clinically The field of investigation is still large As time goes on the uterus itself will get less attention and the pelvic floor more The subject of relaxation and submucous laceration will be more studied Relaxation of the whole pelvic floor, due to repeated labors, infectious processes and anatomic lesions will be found to be a large factor in prolapse Insufficiency of perineal support should not be lost sight of, and the sphincter apparatus of the pelvic floor will be more studied From dissection one would at once conclude that the levator ani fascia and the triangular ligament were the main supports in the pelvic floor, and the relations of other supports must be considered Dissection is the only intelligible way to understand the subject For example, dissection of quite a number of bodies has thoroughly explained, in my mind, the conflicting views of anatomists and gynecologists as to the position of the uterus As a gynecologist I have examined several thousand women, and I am sure that the uterus leans forward in the normal condition Repeated examination on the back and while standing will prove that slight anteversion is the normal position of the uterus Now, the anatomist has often insisted that normally the position of the uterus is in the hollow of the sacrum I have repeatedly found in the dead subject that the uterus is in the hollow of the sacrum, precisely as the anatomist has described Both gynecologist and anatomist are correct In the living woman the normal position of the uterus is that of anteversion In the dead woman in dorsal decubitis the uterus generally lies in the hollow of the sacrum In just such a manner arise the differences of opinion relative to prolapse, which can only be cleared up by careful personal anatomic and clinical investigation A comparison of different causes will soon let in the light

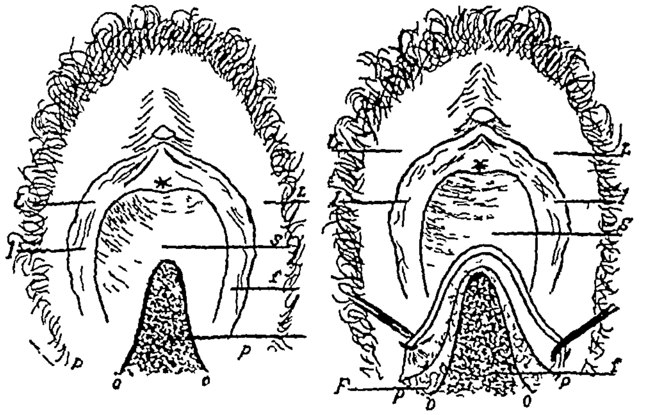

Fig 23 *a* and *b* —Fritsch Walzberg method The figure is according to Pozzi The laceration extends into the rectum S rectovaginal septum, F, rectovaginal septum lacerated, P, perineum In *b* the rectovaginal is split

Though the peritoneal supports of the uterus be deficient they can be put at rest and finally cured by carefully planned operations on the vaginal sphincter apparatus All primary uterus supports are attached to the neck of the uterus and before the uterus shows such signs of hernia the supports attached to the neck must be definitely elongated Doubtless the uterine supports are frequently elongated by infective processes and hence a rest by repairing and fortifying the sphincter vaginal apparatus will result in restoration Especially is this true in certain forms of retroversion If the uterus remains in its normal position (i e, perfectly movable) no retroversion and consequent prolapse will arise In chronic infection processes the pelvic organs at times swell, soften, become edematous, ending in a form of hypertrophy from static congestion I have frequently observed this slow repeated process in the clinics

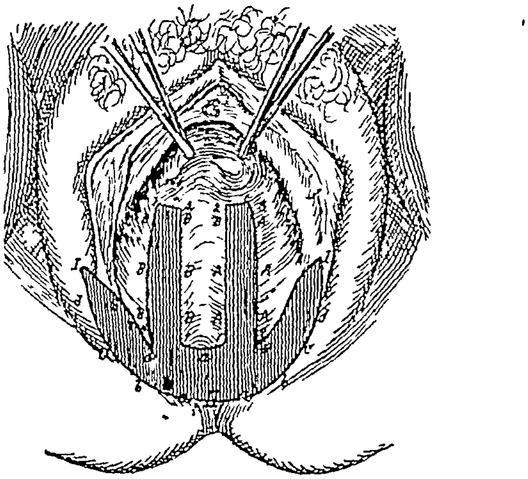

Fig 21 —(After Hegar and Kaltenbach) Bischoff's method of colpoperineorrhaphy He denudes high up on each side of the posterior median vaginal column B, B A A This method partially foreshadowed Emmet's operation Note the butterfly wings 1, 2, 3 d, d Bischoff saved the posterior vaginal

ETIOLOGY OF PROLAPSE

1 Insufficiency of sphincter apparatus *a*, levator ani muscle, *b*, triangular ligament (anterior posterior layers and fascia of Colles), *c*, levator ani fascia, superior and inferior, *d*, perineum (composed of levator ani, bulbo-cavernosus, transversus perinei and sphincter ani ischeo perineal ligaments), *e*, vaginal walls, *f*, urethrovaginal septum, *g*, recto-vaginal septum, *h*, muscular and elastic tissue on lower third of vagina

2 Insufficiency of peritoneal supports *a*, uterosacral ligaments, *b*, round ligaments, *c*, broad ligaments *d*, vesico-uterine ligaments, *e*, perineum, *f*, elongated cervix

3 Intra-abdominal pressure in increased or applied in abnormal directions

4 Relaxation of anterior segment of pelvic floor *a*, repeated labor *b*, submucous, concealed facial lacerations, *c*, subinvolution of pelvic floor and organs

5 Weight of uterus, which affords surface for intra-abdominal pressure

OPERATIONS FOR PROLAPSE

1 Tait's flap operation (and extension) of perineum
2 Perineo-episiorrhaphy
3 Elytro perineorrhaphy
4 Elytrorrhaphy
5 Amputation of cervix
6 Shortening of round ligaments (Alexander-Adams)
7 Shortening of broad ligaments
8 Fixation of the uterus to the abdominal wall (hysteropexy)
9 Schucking's operation
10 Herrick's operation
11 Mackenroat's operation

The operations for prolapse have been as varied as the views of its cases Operators have attacked the uterus, vagina, vulva and uterine ligaments to accomplish their purpose The pioneer idea in prolapse was to close up the vulva so that the uterus could not escape Thus we have the early episiorrhaphy of Fricke and Kuchler But surgeons soon saw that simply closing up the vulva was like attempting to board up Mount Vesuvius The forces at work were not at the vulva but deep in the interior Then came the operations on the perineum with all their variety, from Guillenneau's successful case through Dieffenbach, Langenbeck, Simon and Sims, to the modern flap operation Finally to episiorrhaphy and perineorrhaphy were added operations on the wall of the vagina (colporrhaphy and elytrorrhaphy) Elytrorrhaphy has been quite a successful addition to gynecology, but it is a denudation operation and hence destroys valuable tissue I have observed that the European operators attempt to save anterior and posterior columns of the vagina Men see in the column a valuable piece of supporting tissue, and some of them, like Martin, try to save it Dr Emmet has worked along the same line and his operation is one of the most useful of its kind and if mastered and done thoroughly is successful In it he has combined the best principles of the denudation method It saves the columns and denudes the areas of least resistance His idea of supporting the pelvic floor is certainly correct If the flap splitting method could be made use of in this operation it would be a marked step in advance The vulvar and vaginal operation of denudation should be superseded by the flap-extension method, which might be called perineo episiorrhaphy It is done with no loss of tissue and can be carried right up to the urethra The amount of flap and consequent barrier of tissue built up at the vulva will depend on the depth of the scissors clip and the amount of exposed tissue, and also much on the manner of suturing the surfaces to be coapted The flap-extension method will form one of the best supports for prolapse The objections against the Alexander-Adams operation are 1 Unsatisfactory reports and the bias in selecting cases for the operation 2 In quite a number of bodies the round ligaments can not be found In many cases which I investigated no muscular ligaments could be discovered until one got inside the internal abdominal ring 3 No operator can tell in which cases the difficulty will occur 4 The danger of opening the peritoneum 5 The round ligaments are insufficient for a main uterine support 6 Hernia may follow the operation 7 In case of uterine adhesions the ligaments will not raise and support the uterus Results will not be permanent The round ligaments will gradually yield to uterine weight, especially if there be an enlarged uterus, as is often the case in prolapse

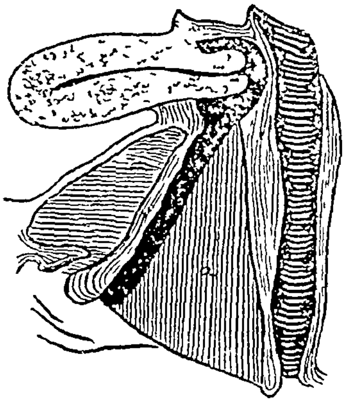

Fig 25 —(A Martin) Colpoperineorrhaphy posterior according to Hegar a, is the newly built perineum

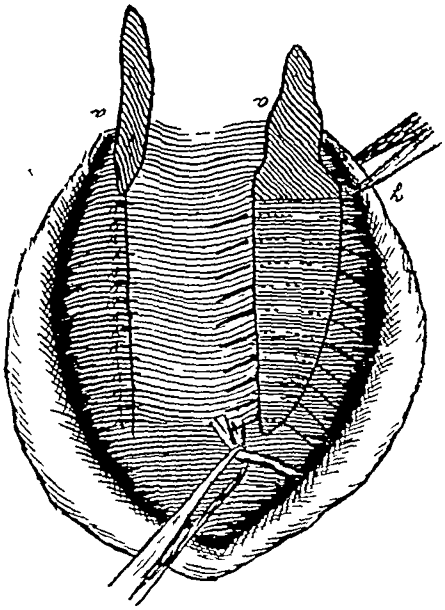

Fig 26 —Colpoperineorrhaphy after A Martin He styles it elytrorrhaphia duplex lateralis The first step is to resect denude the two vaginal flaps the left side is freshened and sutured the right side freshened with the sutured but not tied a, a the denuded vaginal flaps

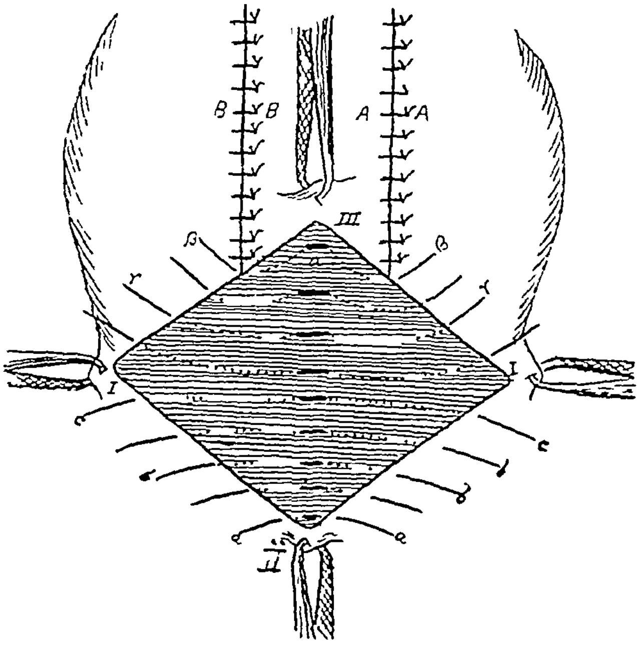

Fig 27 —Second step in A Martin's colpoperineorrhaphy He calls it perineauxesis a and b show the lines of the vaginal denudations sutured (elytrorrhaphy) The diamond shaped space 1 2 3 is the perineorrhaphy following the colporrhaphy posterior The letters indicate the sutures

Some of the above objections may be modified The Alexander-Adams operation is an excellent one in selected cases in retroversion without adhesions it will frequently be of great utility But it is here mentioned as an accessory operation to colpoperineorrhaphy Shortening the broad ligaments is of questionable value Hysteropexy, or the fixation of a movable organ is against all physiologic principles

Schucking's operation for prolapse is not yet established, and it seems the bladder would be in great danger of being wounded during the operation Herrick s operation of attaching the cervix to the posterior vaginal wall has made [illegible] we have not yet learned h [illegible] cro uterine ligaments in prolapse Such operations are but accessions to colpoperineorrhaphy The advantages of the flap operation are

1 The ease and simplicity of its performance

2 It wastes no tissue, if it fails the patient is no worse off than before the operation, whereas the failure of a denudation operation leaves serious defects

3 It is the only operation that restores in a natural method the perineal body The linear cicatrix is split and sutured in the opposite direction Dr Emmet's operation unites the perineal wound artificially by uniting tissues not previously involved

4 It withstands subsequent labors, several of our operations have withstood perfectly subsequent labors Mr Tait informed me of the same fact in many of his operations

5 The sutures are not passed through skin or mucous membrane, and therefore are not so liable to suppurate or produce pain

6 The certainty of healing

7 The flap operation secures in the easiest and most convenient manner the widest possible surface for coaptation and healing of the fasciæ and adjacent tissues in the median line for support

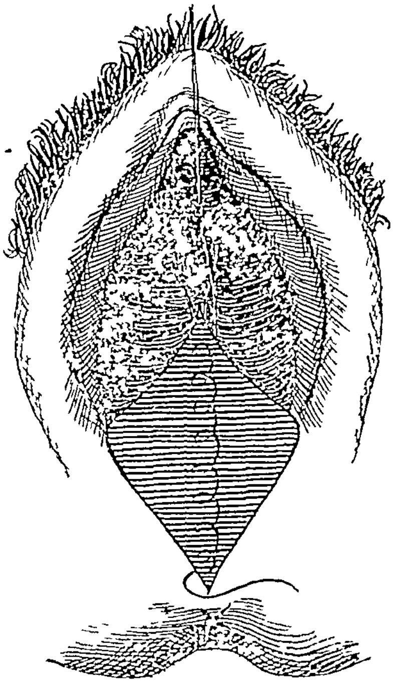

Fig 28 —Martin's operation with a continuous catgut suture (etagennaht) It is a continuous buried suture

8 The pain after the operation, in my experience, is less than after the denudation operation

9 Tait's flap operation can be practiced successfully where the repeated denudation operation can not be performed because of loss of tissue and excess of tension

10 The short time required to do Tait's flap operation minimizes shock

11 The resulting cicatrix is in its natural location and linear, and will thus cause less peripheral nervous disturbances

12 The stitches leave no cicatrices and therefore will cause no irritation One can observe the most practical and best observers trying to save the column and trying to perform denudations in the vaginal sulci The superiority of Tait's flap operation is that it saves all tissue and builds a natural perineum in a natural location, and thus subserves natural forces according to nature's original law, and anatomic structures are not much violated by cicatrices and cicatricial contraction

A fact not generally appreciated is the neurosis, the neurasthenic condition produced by perineal lacerations The visible wound is not always commensurate with the suffering There may be a visible wound an infection atrium, or simply an over-stretching of muscle and fascia, which stretches and traumatizes the peripheral nerves, producing nervous irritation The fascial planes which hold the blood-vessels in distinct relation, are so damaged that congestion and decongestion of the pelvis frequently arise Healthy veins should be spiral and uniform in caliber The laceration of the pelvic fascia allows the veins to straighten out and become irregularly dilated This straightening out and dilatation produces not only blood and lymph congestion, but peripheral nerve pressure The frequent pelvic congestions and decongestion from deficient blood-vessel's support, produce conditions which favor the development of pathogenic microbes in the genital mucosa The gynecologist sees many patients with neurotic phenomena which can only be attributed to perineal lacerations and defects

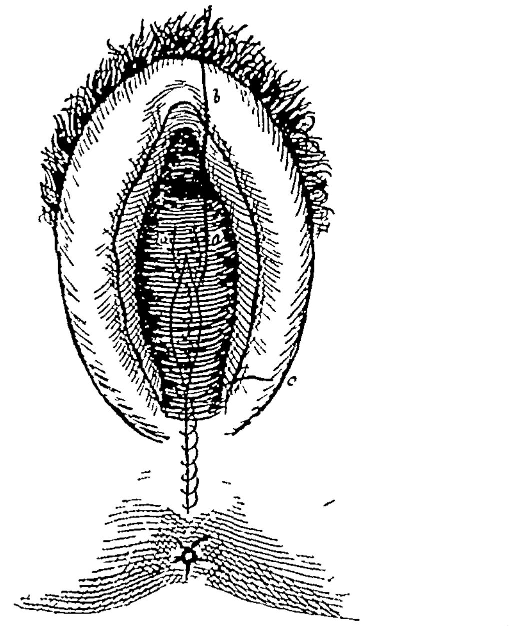

Fig 29 —Martin's operation with buried catgut The upper part (elytrorrhaphy) posterior colporrhaphy the lower part (perineauxesis) perineorrhaphy b, the upper end of thread c lower end of the catgut

When the sutures are tied the newly formed perineum will look enormously longer, but it will soon shrink to the natural condition After some experience one can do the flap operation so that on healing the linear cicatrix will resemble the old raphe so closely that one can scarcely tell after six months that an operation has been performed

For cystocele the flap operation can also be performed The flap method is alike applicable to partial and complete perineal laceration The operation is best demonstrated on complete lacerations

(To be continued)

Formalin for Insect Bites —As the subject of insect stings is mentioned in a recent annotation, may we point out that "formalin" (recommended some time ago for mosquito bites in one of the medical journals by a Zanzibar correspondent) is an excellent remedy for the irritation produced by the stings of all insects? The "bite" is touched with the moistened stopper of the "formalin" bottle and as soon as it begins to smart the excess is wiped off, relief is almost instantaneous

SOCIETY PROCEEDINGS

American Association of Obstetricians and Gynecologists

Eleventh Annual Meeting held in Pittsburg, Pa, Sept 20, 21 and 22, 1898

FIRST DAY—MORNING SESSION

The association met in the assembly hall of the Monongahela House and was called to order by the president, Dr **Charles A L Reed** of Cincinnati Ohio, at 10 A M

Dr **John Milton Duff** of Pittsburg welcomed the association on behalf of the local medical profession Lieutenant-Governor **Walter Lyon** followed with a brief but very eloquent address of welcome on behalf of the citizens of Pittsburg and of the State President **Reed**, in behalf of the association, responded to these remarks of welcome in a very concise but graceful speech

Following the preliminary exercises came the first paper of the scientific session, by Dr **Frederick Blume** of Allegheny, Pa, entitled

SOME OF THE COMPLICATIONS FOLLOWING VAGINAL HYSTERO SALPINGO OOPHORECTOMY IN PELVIC SUPPURATION, WITH REMARKS ON THE OBJECTIONS TO THIS OPERATION

He said a perusal of the literature of the past few years proved that vaginal hysterectomy had made its way here and abroad Its condemnation upon therapeutic grounds had decidedly diminished Its advantages were too plain to permit of being longer ignored Men who, in the beginning, strongly objected or opposed this mutilating operation, as some were fond of styling it, had changed their opinions Guided by the experience of others, they had adopted this method and confirmed the assertions of its advocates that it was a conservative operation in the broadest sense of the word—a procedure which, though sacrificing the uterus, conserved the life of the patient even under circumstances where the suprapubic route would mean certain death The propriety of removing the uterus in suppurative disease of the appendages had been questioned ever since Péan introduced vaginal hysterectomy Briefly stated, the chief objections were 1, the uterus was not a useless organ after the ablation of the appendages, and should not be sacrificed unless seriously diseased, 2, vaginal hysterectomy was an incomplete procedure followed by serious complication and was not curative The disposition to preserve the uterus during the child bearing age in women with healthy tubes and ovaries, or in unilateral suppurative pelvic disease, could well be understood, but why this organ should not be removed as the initial step of a life saving operation, when the ablation of both appendages became a necessity, was beyond comprehension The assertion that the uterus without the appendages was still an important organ, that its functions had not ceased with the artificial induction of the menopause must be rejected as untenable in the light of present knowledge The arguments that after the extirpation of the uterus the nervous phenomena were more pronounced than when the appendages were left alone, had strongly influenced many surgeons against vaginal hysterectomy Careful investigation, however, had shown that these arguments could not be verified Mainzer, in a report of 200 vaginal hysterectomies for chronic inflammation of the adnexa, performed in Landau's clinic, had arrived at the conclusion that there is less disturbance of the nervous system after the radical operation than after salpingo oöphorectomy alone He further states that the age of the patient bore no relation to the presence or absence of these nervous symptoms Dr Blume does not confirm the view that the removal of the uterus increases the nervous disturbances incidental to the menopause, and he is inclined to believe that this view is based upon the complaints of neurotic women As to the sexual passion, his patients with but one exception state that they have as much sexual appetite now as at any time before operation Two of them, young widows, who married a year after the operation, informed him repeatedly that they were more passionate and enjoyed sexual intercourse more than ever The mortality of vaginal hysterectomy was considerably less than that of the abdominal operation There was, however, a diversity of opinion as to the ultimate results of the vaginal procedure The essayist does not resort to the vaginal method in those cases in which there is a possibility of saving one tube and ovary, i e, in cases of unilateral suppuration even when due to gonorrhea He is not yet convinced that both appendages must be sacrificed, far less the uterus, when gonorrheal infection is limited to one tube and ovary His personal experience with vaginal hysterectomy for pelvic suppuration is limited to forty two cases operated during the years 1895 to September, 1898 This series, though small in number, was quite interesting on account of the extent and the gravity of the pathologic changes Of the forty two patients, eighteen belonged to that desperate class which, if treated by the abdominal route, were either left unfinished or, according to the statements of prominent operators, had a death rate of 25 to 30 per cent in the hands of the most skillful surgeons The pelvic organs were agglutinated into one mass and could not be distinguished by vaginal or rectal examination In some instances these masses reached half way to the umbilicus, while in others the peritoneal cavity was less involved and they extended downward into the vagina, pushing the uterus against the symphysis pubis and compressing the rectum to such an extent that an ordinary rectal tube could not be passed without difficulty The lesions of the remaining twenty four patients were not quite so extensive, yet in every instance both appendages were so far involved that a conservative operation was out of question Complications occurred in three cases

Dr **Joseph Price** of Philadelphia said that the sexual appetite of women, alluded to by the essayist, following a variety of operative procedures, was in many instances improved rather than impaired It was rare for a woman to complain of impaired sexual appetite after a supravaginal hysterectomy Age, however, should be considered in discussing the nervous phenomena incident to a normal or precipitate menopause He advocates the abdominal route, saying that the vaginal method was an incomplete one The latter method favored bowel obstruction Of ten vaginal hysterectomies performed by Coe in his early work, there were two deaths from intestinal obstruction

Dr **Edwin Ricketts** of Cincinnati, cited an instructive case in which it became necessary to resort to the combined method He spoke in favor of the vaginal route in some cases, but not in all instances, for pus in the pelvis

Dr **Rufus B Hall** of Cincinnati was willing to admit that there were cases that could be dealt with by vaginal section and drainage, but the field for this operation was limited In cases in which there were dense adhesions to viscera, good, complete work could not be effected by the vagina Experience had taught him that if a patient was under 35 years of age and the uterus was removed by an abdominal operation and the cervix was left, she suffered less from reflex disturbances than she did when the uterus was left

Dr **Charles Greene Cumston** of Boston said that suppurative conditions within the pelvis demanded different treatment, according to their situation, the number of foci, their size and nature, and in making the diagnosis and considering the choice of operation, all of these things should be considered, whether the case be suitable for the vaginal or abdominal route In most cases of pus in the pelvis, speaking in a broad sense, posterior colpotomy was a trifling operation, yet a conservative one It could be performed in chronic, purulent cases of the female pelvic organs and in acute suppurations where it would be dangerous to do either abdominal or vaginal hysterectomy

Dr **James F W Ross** of Toronto said that at the Montreal meeting of the British Medical Association vaginal hysterectomy for cancer was discussed, and his experience agrees with that of Price, that this operation for carcinoma, no matter how early it was done was not satisfactory High amputation of the cervix after the method of Byrne had been satisfactory in his hands

Dr **L H Dunning** of Indianapolis remarked that the character of the suppurative products encountered by the surgeon called for different lines of procedure In the cases described by the essayist, in which the pus accumulations were exceedingly large extending as high as the umbilicus, fixed, and extending down into the vagina, it had been his practice for the last ten years—and he saw no reason to change it—to do vaginal section In such instances where vaginal hysterectomy was done it was exceedingly difficult, if not impossible, to remove the pus sac, He had operated on fifty cases of the kind described, by vaginal incision Of this number four returned for subsequent operation All but one had made primary recoveries

Dr **B Sherwood Dunn** of Boston believes the perfection of technique of hysterectomy by the vaginal route exceeds in difficulty that by the abdomen to a great degree The complications following the vaginal route exceeded those of the abdominal method The danger to the ureters the bowel and post operative hemorrhage were very much greater by the vaginal than they were by the abdominal route He restricted vaginal hysterectomy to a few selected cases where [illegible] of death of his patients by the suprapubic [illegible] operation was difficult, and in many ins lowed by a second operative procedure through the abdominal wall

Dr W E B DAVIS of Birmingham holds that vaginal incision and drainage has a large field There was a great deal of difference between operating upon old gonorrheal cases and upon fresh ones Unquestionably all the cases following the puerperal state, where the surgeon can place his finger upon the side or behind the uterus, could be dealt with better by the vaginal route The surgeon made a mistake when he opened the abdomen to deal with this class of cases, when vaginal incision and drainage was such a simple procedure While a few cases would return for secondary operations, the surgeon should be willing to give young women several operations, if necessary, to save important organs

Dr C A L REED of Cincinnati formerly resorted to the vaginal route and, after trying it carefully and conscientiously in many cases, he had practically abandoned it and had returned to the abdominal incision He had found, however, a class of cases in which hysterectomy was a very important concomitant in the course of treatment, but even in these he does not remove the uterus per vaginam

The paper was further discussed by Drs A B Miller of Syracuse, and J Henry Carstens of Detroit

FIRST DAY—AFTERNOON SESSION

Dr D. TOD GILLIAM of Columbus, Ohio, contributed a paper entitled

OPERATIVE TECHNIQUE FOR INTRALIGAMENTOUS OVARIAN CYSTOMA

Prior to the enucleation method of Miner, the surgical treatment of these cases was crude and incomplete Miner's method marked a new epoch and will ever remain the foundation principle of their surgical treatment It was, however, attended with so much difficulty and danger as to greatly abridge its usefulness The chief danger was from hemorrhage, which was oftentimes fearful and not infrequently fatal Other, and by no means unimportant, dangers came from injuries to important pelvic structures while conducting a hurried and blind dissection There was a crying need for something better The essential factors of the ideal operation are 1, tapping, to reduce the volume of the cyst and to open the way for hemostasis, 2, ligating the supply vessels to control hemorrhage, 3, enucleation along the line of cleavage to insure easy, rapid and safe dissection This technique was foreshadowed in a case on which the essavist operated, on Oct 30, 1894 Here he gained his first knowledge of the line of cleavage for intraligamentous cyst and reported it to the Columbus Academy of Medicine In 1896 Kelly announced the line of cleavage for intraligamentous uterine fibroid Hall (in 1897) was the first to combine all the essential factors of the ideal operation Hall's method, however, included hysterectomy The method of the essayist, without hysterectomy, is as follows, First tap the cyst and drain off its contents, then ligate the ovarian artery near the pelvic wall and place a clamp between the cyst wall and the uterus Select a point as low down on the anterior wall as practicable, and with a pair of forceps lift up the capsule and make a small opening Insinuate a finger and sweep it around, separating the cyst from its matrix at the base Now turn the finger upward and work in the direction of least resistance, slitting the capsule as you go This will indicate the line of cleavage and will generally run upward and outward diagonally across the face of the tumor Now introduce the hand and strip off the capsule from below upward, following the line of cleavage Enlarge the opening by making an incision parallel to the capsular margin, seize the cyst and roll it out of its bed, stripping it from the posterior capsular wall Trim and suture as in other cases

GENERAL CONSIDERATIONS ON SEPTIC INFECTION OF OVARIAN CYSTS

DR CHARLES GREENE CUMSTON of Boston read this paper, He said that inoculation experiments had shown that if the liquid contents of an ovarian cyst were uncontaminated by bacteria they would remain aseptic and would undergo no change But if, on the contrary, microbes attacked a cyst and entered it, its contents would serve as excellent culture media, and symptoms of infection would soon appear But the human organism would take on the offensive and would react against the bacteria which had infected the cyst, leucocytes came from the walls of the vessels and attacked the invading microbes, and thus we had the transformation into pus of the liquid contents There were two kinds of septic infection of ovarian cysts, namely, pathogenic infection and saprophytic infection Pathogenic and saprophytic organisms often entered ovarian cysts through puncture, incision and drainage As puncture was discarded in a great number of instances by the majority of the profession, the patient contained the agent of the septic process under consideration The germs did not come from without, but from the interior of the organism, and it may be called a true auto infection, which takes place in one of three ways 1, by means of the blood, in which case the infection was either direct, produced by phlebitis, which extended to the cyst, or it might be indirect, in which case the infective elements were carried in the general circulation into the tumor by means of its pedicle, 2, infection might take place by the lymphatics, in which case the lymphatic channels acted as the contaminating canals and allowed a direct introduction of the germs into the interior of the cyst up its hilum, 3, we had infection through adhesions, which were plentifully supplied in new formed vessels which were intimately connected with those in the walls of the cysts, and thus allowed an easy transportation of the bacteria

After giving at considerable length the symptoms of ovarian cysts and dwelling upon the diagnosis and differential diagnosis, the author dealt with their operative treatment Operation for the removal of ovarian cysts which were the seat of septic infection may be divided into four stages 1, incision of the abdomen, 2, the breaking up of the adhesions and ligature of blood vessels which they may contain, and then the pus may be removed by trocar and not with the knife, because if the cyst is incised pus will immediately flow out, and the wound will very likely become infected by the septic material, 3, extraction of the cyst through the wound—and in doing this the surgeon should be careful to avoid infecting the abdominal incision at the time he is drawing the pocket through, but this complication may be easily avoided if aseptic gauze sponges are tightly packed around and inside the line of incision Next comes the ligature of the pedicle and its section, after which it is dropped into the abdomen, 4, the fourth step of the operation consists in the cleansing of the peritoneum, which should be done with great care, especially when the operative field has run any chance of infection If this has occurred, free irrigation of the peritoneum is proper, but it should be done with care, and the liquid employed should be a warm, normal salt solution Care should be taken to limit the irrigation to the subumbilical portion of the peritoneal cavity, and a back flow of the liquid toward the diaphragm should be prevented by having the operating table perfectly flat and the thorax slightly raised

Dr HENRY HOWITT of Guelph, Ont, read a paper entitled

A SECOND CONTRIBUTION TO THE SURGICAL TREATMENT OF INTUSSUSCEPTION IN INFANTS, WITH CASES

In the paper the term "infant" was restricted to those under 1 year of age After briefly describing the different varieties of intussusception that occur at any period of life and also referring to particulars in regard to statistics, modes of growth, length of bowel involved and the severity of attack in the varieties, he states that in the infant we have only the acute forms with which to deal in practice, nay, possibly only the ileocolic, which all authorities agree to be the most acute and rapid variety of invagination It is, he states, the ileocecal form plus the valve distended and its lumen occluded by the swollen and edematous invaginated portion of ileum which, owing to the tight constriction at neck by valve, in a manner resembles a well hammered boiler rivet that no evenly distributed pressure from within can force out The author believes that many instances of the trouble occur in infants, leading invariably to death, without the true nature of the malady being recognized by the attendant, and that when the facts having reference to this variety of intussusception become generally known, fewer deaths will be recorded from certain bowel affections, and more lives be saved by surgical means He has seen seven cases, six of them almost within the past five years, or since his attention was drawn to the subject Six were in male children, all came from a district, the population of which is under 12,000 He has operated successfully on four, all of whom were under six months of age A fellow practitioner lost one owing to an accident, during operation In one case the friends refused operation and death resulted, and one died shortly after the onset, before anything could be done The symptoms of ileocolic intussusception were fully dwelt upon In regard to its diagnosis, the speaker emphasized the importance of the history of the onset, and stated that without it the attendant may be likened to a ship in a storm without helm or compass In fact, the nature of the onset might suffice to make a diagnosis The detection of a tumor in the course of the colon left no room for doubt The condition in this form of intussusception was such as to preclude the hope of recovery by any method short of operative No time should be lost in trying either bowel inflation or injection of fluids They could do no good His method of operating is as follows

He maintains the temperature of the child by suitable applications to extremities and body during operation. Rigid aseptic preparations and precautions should be carried out. A median, three inch incision, avoiding the high placed bladder, is made, the small intestines are eventrated as rapidly as possible, and protected with gauze, which is irrigated with water of suitable temperature. The evisceration allows the obstructed portion of intestine to be brought into view. When, as is generally the case, the invagination has reached the transverse colon, the surgeon can not bring it out of the wound till the part of the large bowel implicated is disinvaginated. This is accomplished by making pressure on the apex of the intussusceptum while the intussuscipiens is pulled in the opposite direction. It is done by grasping the colon close to the apex with hand and following it up the bowel step by step till the colon and cecum are free. The mass is now lifted out of the incision. Then comes the most difficult point, the reduction of the invaginated portion of ileum. The part is grasped in the hand and firmly pressed for a few minutes, the pressure is made with the thumbs on the apex, while the fingers surround and support the outer orifices of ileocecal valve. The method resembles that used in paraphimosis, only the large bowel covers the part from view. Before returning the intestines to the abdominal cavity the contents which have accumulated in the ileum above are forced through the affected part into the colon, this proves that the difficulty has been effectually overcome and ensures an early movement of the bowel. Drainage is not necessary. The omentum is spread over the intestines to prevent adhesion of the bowel to the line of incision. The dressing is covered with oiled silk, the edges of which are sealed with collodion to prevent urine reaching cut.

Dr. **Reed** said his experience was restricted to a single case of intussusception in infants. The child was operated *in extremis* and died within the first five hours following operation. With early interference the outcome might have been different.

Dr. **Price** said the cases reported were a beautiful demonstration of what can be accomplished by good judgment, great diagnostic skill and early surgical interference.

Dr. **W. E. B. Davis** thought it was unusual for one man to have as many cases of invagination in infants. He had only met with one case, and this occurred ten days ago, the child, a male, being 8 months old.

Dr. **Hall** recalled half a dozen cases of intestinal obstruction in infants' in sixteen years' general practice, that had died. He believes the invagination is overlooked in the majority of instances.

Dr. **John M. Duff** believes intussusception in infants occurs more frequently than is generally supposed. He had held post mortems on several cases where the diagnosis was doubtful, but intestinal obstruction was found. He had seen two cases within the past year, in one, operation was refused and the child died. At the autopsy intussusception was found. The other case was operated on after peritonitis had set in, followed by death.

Dr. **Cumston** had seen four cases of invagination in children.

First Day—Evening Session

Dr. **Joseph Price** of Philadelphia read a paper with the caption

NURSING IN ABDOMINAL SURGERY

He thought the time had passed when any question was raised by intelligent and experienced members of the profession as to the value of the trained nurse. Nurse training schools had become important institutions, not only to young women who, with a creditable ambition, entered them to fit themselves for the profession of nurse, but to the physician, for the physician, whether in general or special practice, knew the value of the trained nurse, understood the close and vital relation she held to his patient, how much her care and quick intelligence of the needs did to relieve his anxiety and promote the welfare of his patients. The training of these schools should be specially and simply directed to fit pupils for the duties of nurses. These duties in all their details, and all the steps in the training essential to discharge them faithfully and intelligently, should be definitely, orderly and clearly outlined by teachers of thorough experience. Those desiring to become nurses should commence their work early, while young, studious and ambitious, while their habits are not so fixed as to make a change difficult, if not impossible. Too much had always been expected of nurses in private nursing. Nursing through twenty four consecutive hours was too much to require of human endurance and resulted in neglect of the patient. Systematically trained special nurses were usually bright, cheerful, interested and spirited, were alive to the importance of their work, cared for and infused into their patient some of their own animation. The untrained nurse, on the other hand, was meddlesome and dangerous. Young, healthy, unmarried women were to be preferred, not widows or grass widows, great aunts or grandmothers.

Second Day—Morning Session

Dr. **W. J. Asdale** of Pittsburg read a paper in which he reported an interesting case of extrauterine pregnancy, with mature fetus, and exhibited specimen. The skeletal remains were borne seventeen years over the completion of gestation term, and the condition was eventually complicated by an ovarian cyst. No operation was performed. Patient died. At the autopsy a monocyst of the right ovary of large size was emptied and withdrawn. One of the long bones of a fetal skeleton was found in the pelvis, free, from high in the left hypochondrium underlying the left lower ribs and just beneath the diaphragm the remains were found, skeletal, of a fetal body, disarticulated and closely packed together. The bones were invested by the intestines, a portion of which was cut away in the removal. The fetal soft parts had, at the time of the autopsy, almost entirely disappeared. Records of successful operations undertaken for the removal of long retained fetal remains were so rare as yet to be exceptional, and how much more doubtful surely would be the result of operative interference in such a complicated case as this.

REMARKS ON PRIMITIVE AMENORRHEA, WITH REPORT OF A CASE AND PRESENTATION OF ACCOMPANYING PATHOLOGIC SPECIMEN

Dr. **Walter B. Chase** of Brooklyn read a paper on this subject, in which he said that the essential fact in the sexual life of woman was the predominating control of ovarian influence, and the central fact in the pathology of woman's sexual life was due in large degree to changes or perversion of function or structure of the ovary. While ovarian function was not the single influence which swayed woman's existence, the absence of it would dethrone her womanhood. The commonly accepted theory concerning the functional activity of woman's sexual life was that menstruation marked the commencement of ovulation, and that in its ordinary manifestations they were, in point of time, coincident. The experience of all observers doubtless furnished exceptions to the common law, but these exceptions served rather to confirm than abrogate it. Among these variations or absences of physiologic processes, amenorrhea in some of its forms was of common frequency. An intelligent and comprehensive distinction in amenorrhea embraced a difference between those cases which were congenital or acquired. In the former—*emansio mensium* or primitive amenorrhea—the causes were congenital, while in the latter—*suppressio mensium* or acquired amenorrhea—the causes were functional, or largely so. In the first class, menstruation has never been present, in the second class, the function once present is arrested. Primitive amenorrhea may result from congenital deficiency or imperfect development, as follows: absence or imperfect development of ovaries and uterus, degeneration of the ovaries, cystic or otherwise, the formation and development of benign or malignant tumors of the ovaries sufficient to preclude or abolish their function.

Report of Case.—Mrs. B., aged 24 years, a woman of refinement and fine physical development, had been married about two years, was sterile and had never menstruated. She gave an intelligent history of having had all of the symptoms which usually accompanied menstruation, since the age of puberty, except the appearance of the menstrual flow, commencing at about 18 years. The symptoms of discomfort developed with perfect regularity every twenty eight days, with a history of increasing pain and nervous excitability, until during the eighteen months previous to his having seen her the pain had become unbearable and nervous perturbation such that she and her friends feared insanity. The one subjective symptom which gave rise to her fears of mental disturbance was severe headache and pressure felt at the vertex, which was present for several days at each menstrual molimen. During a year or more she had become conscious of a gradual enlargement of the abdomen and could herself easily define an abdominal tumor. She entered the service of Dr. Chase at the Bushwick Hospital, and a careful study was made of her case by the consulting gynecologist and himself. The patient was desirous of an operation, which was performed. The first tumor removed was a dermoid and had no pedicle but was closely adherent to the uterus and the right broad ligament. The second tumor was a suppurating multilocular cyst of the left ovary. The report of the pathologist was: 1, that the dermoid had usurped the place and destroyed the function of the right ovary; 2, in one of the cyst walls of the multilocular ovarian [illegible] found a shrunken ovary the size of a large lima bean [illegible] this ovarian stroma was found a corpus luteum [illegible] the presence of this ovarian stroma was due the womanly development, with ovulation, and the futile effort of menstruation and its consequent suffering, 3, it demonstrates the possibility of ovulation without menstruation, 4, it leaves us in doubt whether the absence of the Fallopian tubes was primary or secondary to the grave disease of the ovaries, with the possibility that they were congenitally absent, 5, it presents the rare and exceptional condition of a perfectly developed woman who had an ovary and uterus, who ovulated, was sterile, and never menstruated, and yet was ruined in health by Nature's effort to establish an impossible normal function

The remainder of the session was devoted to the presentation and discussion of pathologic specimens Specimens were exhibited by Drs John B Deaver, X O Werder, Rufus B Hall, and Wm H Humiston

Second Day—Afternoon Session

The President's address was delivered by Dr **Charles A L Reed** of Cincinnati, on

THE EVOLUTION OF SPECIALISM

He said that modern specialism in medicine dated from the period when the French schools, in the early decade of this century, took up seriously the question of pathologic anatomy This was the physical basis upon which the work of division began The obstetric art was as old as the function of reproduction, although the latter ages had witnessed its present refinements It had been said that obstetrics married surgery, and that the fruit of the union was bright eyed gynecology The accouchement probably occurred at the time Recamier invented the speculum in 1801 While surgery had its first rational development in the United States in 1809, under the masterly hand of McDowell, everything from that day to this was essentially contemporaneous history, in which occurred conspicuously many of the proudest American names Specialism became a verity, in response to natural laws, which even today determined its destiny There was not a day but that the general medical profession became enriched in resource and potentiality by the accretions derived from specialism Each specialty, however assiduously cultivated, remained an integral part of the great general profession, the masters of which must ever stand as our ideals All specialists today were primarily the products of general medical culture

Third Day—Morning Session

Dr **D Tod Gilliam** of Columbus, Ohio, read a paper on the "Treatment of Granular Erosions of the Cervix," and reported three cases, which he had treated successfully by ligation of the cervical vessels

Dr **B Sherwood Dunn** of Boston, followed with a contribution of

THE RELATION OF NERVOUS AFFECTIONS TO DISEASES OF THE FEMALE PELVIC ORGANS

He limited his remarks to the great neuroses of neurasthenia and hysteria and insanity He was totally opposed to any operative procedure, except where pathologic conditions were demonstrable He had no confidence in operations upon healthy organs for the cure of any neurotic condition, and believed that such were now generally condemned by the profession He, however, looks upon the position taken by some neurologists, that there was no relation of cause and effect between the various neuroses and psychoses and disease of the female pelvic organs, and being as extreme and condemnatory as the advocacy of the removal of normal organs in the female pelvis for the cure of nervous diseases, by some ill advised persons calling themselves gynecologists In operating upon diseased conditions in the pelvis, the gynecologist did not expect to remove the symptoms of the neuroses, but only those symptoms properly belonging to the pelvic disease itself But strange and disappointing as it might seem to be to some of the critics, when those pathologic pelvic conditions were removed or corrected the nervous system, relieved from the source of unceasing irritation, gradually returned to its normal poise, and the patient was cured of her neuroses as well as her pelvic disease

Dr **Wm H Humiston** of Cleveland, Ohio, read a paper on the

GRAVER FORMS OF NERVOUS DISTURBANCES DUE TO ORGANIC CHANGES IN THE GENITAL ORGANS

In the last five years of his work the essayist had never operated upon a case in which the correlation between the diseased pelvic organs and the nervous symptoms was not clearly defined before an opinion from a neurologist relieved him of doubt of a nerve or brain lesion, with one exception He reported six cases in which great relief, in some cases cures, followed operative interference The first case was one of insanity, the second, melancholia, the third, neurasthenia, the fourth, insanity, the fifth, hystero epilepsy, and the sixth, hysteria The cases were reported with the hope that some effort would be made to secure for women confined in county and State institutions for the insane such surgical measures which would, in a large proportion of cases, be a curative means for their mental ailment, and which must, in a vastly greater proportion at least, improve their condition both mentally and physically

Dr **Rufus B Hall** of Cincinnati read a paper on

ALBUMINURIA COMPLICATING GYNECOLOGIC OPERATIONS

The Doctor referred, first, to the conditions predisposing to this complication He urged careful examination of the urine preceding operation, so as to determine, if possible, the presence of nephritis or other causes leading to suppression The most common cause is a preexisting nephritis, but unfortunately, in granular nephritis, a most careful examination of the urine may fail to show the presence of the disease One of these patients, after the operation, may have suppression followed by coma and death The Doctor said we might also have suppression following the operation in a patient with a fatty heart or with atheromatous arteries He considers it of the greatest importance to have the patient thoroughly prepared for operation If he finds the least indication of preexisting nephritis, he advises chloroform for the anesthetic, regardless of the age of the patient In his early operative work he used ether almost exclusively He cites 110 sections in which ether was given In thirty three cases there was a trace of albumin in the urine in the first twenty four hours In ten cases there was partial or complete suppression, and two died in coma During the time he used the ether, he operated on seven patients known to have nephritis They were given chloroform and are included in 500 sections where that drug was the anesthetic Eighty five of this number showed a trace of albumin in the urine in the first twenty four hours after operation Ten cases had suppression, and four died of uremic coma All patients who were known to have kidney disease were given chloroform There were 35, and the deaths in the chloroform list were from this number To avoid the dangers from the use of chloroform, the Doctor urged that its administration be entrusted only to one expert in its use The Doctor closed his paper with a resumé of the preliminary treatment he accords every patient about to be subjected to a section, of the manner in which he conducts his operations, and of the measures he employs if albuminuria occurs following the operation

Third Day—Afternoon Session

Dr **X O Werder** of Pittsburg gave the clinical observations of over one hundred abdominal sections for ovarian tumors

Dr **Frederick Blume** of Allegheny, Pa, reported a case of double uterus and vagina, with pregnancy in one horn, in which he excised the vaginal septum

The election of officers for the ensuing year resulted as follows President, Edward J Hill, Newark, N J, First vice-president, Edwin Ricketts Cincinnati, Ohio, Second vice president, A B Miller, Syracuse, N Y, Secretary, Wm Warren Potter, Buffalo, N Y, re elected, Treasurer, X O Werder, Pittsburgh, Pa, re elected Executive Council, A Vander Veer, L S McMurtry, W E B Davis, John M Duff, L H Dunning and Walter B Chase Indianapolis, Ind, was selected as the place for holding the next meeting, the time of which was left to the Executive Council

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Gloucester County (N J) Medical Society

This society celebrated its eightieth anniversary at Wenonah, Sept 15, 1898

The President, Dr Geo C Laws of Paulsboro introduced the mayor of the Borough of Wenonah, who welcomed the assembly in a fitting speech, and at the request of the President, Dr Mordecai Price of Philadelphia responded

Dr **James Tyson** of Philadelphia then read an essay on

THE GENERAL PRACTITIONER

He said "A general practitioner is one who shrinks from no service which belongs to his art He is at once physician obstetrician, gynecologist, ophthalmologist—anything which has received a title in the differentiation of professional duties A hundred years ago, one man could do all that was expected of him Even then certain men were distinguished for operative skill, yet the entire field was considered within the province of one man Casting about for the field actually occupied by him we find he is one who practices, first of all, medicine in its broadest sense, including not only the diseases of children, but also skin diseases He practices midwifery In surgery, for the most part, he is often called upon in minor surgery and the simpler affections of the eye and ear The more complicated technique, which modern medicine has imposed upon the proper treatment of diseases of the nose and throat, demands vastly more time and trouble than the older treatment of these affections, yet the general practitioner can not escape it Orthopedics is practically excluded, while genito urinary affections necessarily fall within his province The term must include more in the country than in the city In the city he is limited in his work by the will of the patient In the country, in the truest sense, the physician is a general practitioner His qualifications should be correspondingly thorough He should have preliminary culture in the broadest sense much more than the specialist He should be college bred, able to read Latin, French and German Greek also would further fit him for his work He should be well drilled in physics, in chemistry, equally well in botany, mineralogy comparative anatomy and zoölogy—a biologist in the full sense of the term well read in standard literature, equipped with all that would make him ready and versatile, not only to enhance his own pleasure and enjoyment, but that he may appear the equal, if not superior, of those with whom he mingles—the intellectual equal of the most intellectual of his community, to whom all may go for information His professional education should be the best his money can obtain A cheap medical education is like a cheap garment It soon needs repairs, and is an ever growing disappointment to its possessor Hospital residence for a year at least is important He should be familiar with the microscope, ophthalmoscope, etc Thus equipped, his consulting room should be well appointed, his laboratory replete with instruments of research, etc, as well as necessary reagents for chemical work As indispensable as, more useful than a horse and buggy—in the days of the bicycle at least—is a neat, bright, quick witted, intelligent wife She is a treasure, a cheerful helpmate and a loving companion, keeps his books and talks over his cases with him She can learn to test urine use the microscope, and help more than a qualified assistant because she is actuated by love and a common interest Nothing is such a drawback as a slouchy, novel reading wife I have known more than one man's life blighted by such a companion To marry on nothing is ill advised, but one need not wait for ample means When he begins to see his way clear to reasonable success, he should marry a sensible well educated woman, a little younger than himself How now shall he attain success? By well directed, earnest effort Establish an office or consulting hour and maintain it The office hour is too much ignored by the country practioner It is soon found out and then his patients will be sure to expect him at that time Your general practitioner must be an early riser When his hour is ended, he must promptly start on his visits, not making his visits too long thus losing time and also the respect of his patients Still he need not indicate by his actions that he is in a hurry, this is harmful also With work well arranged, time will remain to spend in study of doubtful cases, reading, etc He must subscribe for one first class weekly journal, also a scientific one He must keep in touch with all that goes on in the world Abstracts and first class editorials he must have He should be a member of his local society He must win the regard of his fellows, ventilate his views only after he has acquired the faculty of speaking in a proper manner, and report interesting cases The State and National societies should claim his membership and attention He thus rubs off the cobwebs, renews or makes acquaintances, and while young may better offer his aid while an older practitioner goes to such meetings when at a distance Jealousies between doctors are unjustified, yet they are frequent especially in the country More than half are without foundation, the result of misunderstanding, misrepresentation hearsay, etc Acquaintance prevents this, as it makes a man know how well his brother is disposed toward him He should not be in a hurry to call in a consultant but should first call his neighbor and thus exhaust the local resources before he sends for a specialist from the city He may accomplish much for the patient and promote good feeling Next he has duties to the community He should guard it well lest any violations of hygienic laws cause disease, and should suggest measures for the relief of any such When this is done in a quiet unostentatious manner he will be listened to with respect and his advice will more likely be followed Cultivate social life this aids in many ways As to compensations money often is not the thing Well doing brings its own reward Many would give money who are not able, but give respect etc. Alluding to pictures of the general practitioner by the novelist the speaker concluded What a privilege to be a member of a profession in which such men abound What an honor to be one of those from whom such a type is drawn! Well may we glow with pride at the recognition it has received, and while taking new courage from the contemplation of such a life let us not fail also to allow our hearts to be softened by this example and bear with patience the many disappointments and petty annoyances that beset our daily path

The President then read an essay, having for its title

THE EFFECTS OF NITROGLYCERIN UPON THOSE WHO MANUFACTURE IT

In 1880 a large manufactory of nitroglycerin and its compounds was established upon the banks of the Delaware River near Gibbstown, three miles from Paulsboro, where he resided Many of the women and their families have become his patients and he has had ample opportunity to observe the effects of this material on the systems of those brought in contact with it He detailed the mode of manufacture and gave some account of its properties It was discovered in 1846 by Sobrers, later investigated by Railton and DeVrij It is a heavy, pale yellow fluid, inodorous, slightly soluble in water, soluble in alcohol It is formed by the action of concentrated nitric acid on glycerin, in the presence of strong sulphuric acid at a low temperature It is also called glonoin, trinitrin and propenyle nitrate It is the principal ingredient of all high explosives, such as dynamite, under its various names of Judson powder, explosive gelatin—the material used in submarine mines—and enters largely into the composition of smokeless powder Chemically it is an ether, being produced by the action of an acid (nitric) on an alcohol (glycerin) It is used medicinally in minute doses in large doses it is an acrid poison In the process of making, a large, tub like vessel is used, fitted with dashers, which are rotated horizontally by a compressed air engine The vessel is lined with lead and has an extra lining of a continuous coil of lead pipe, through which a stream of ice water is passed In the center is a large thermometer on which the workman keeps his eye while the charge is being run As the temperature rises he allows the flow of glycerin to increase as it lowers, he increases the flow of mixed acid Practice makes him expert and enables him to run a charge in about an hour This man's position is a trying one, as he stands with both hands on the levers and his eyes fixed on the thermometer, not for an instant dare he relax his attention The charge consists of 5500 lbs of mixed acid in the proportion of 170 lbs of sulphuric acid to 100 lbs of nitric and 14 per cent of 770 lbs of glycerin These are run into the tub through separate spigots After being thoroughly agitated together the charge is drawn off into a settling vat where the mixture separates by gravity into nitroglycerin and sulphuric acid The former is drawn off and thoroughly washed with water and the superfluous acid neutralized by an alkaline solution The sulphuric acid is run through pipes to another building where all the residual nitroglycerin is extracted by a freezing process The remaining acid is reconcentrated and again used The nitroglycerin is stored in tanks, from which it is weighed and distributed in lead lined copper buckets to the various sub departments In the manufacture of explosives it is mixed with sawdust nitrate of soda, nitrate of ammonia and nitrate of soda wood pulp, etc Explosive nitroglycerin is made by mixing 8 lbs of gun cotton, 10 lbs of oxid of zinc and 82 lbs of nitroglycerin boiled together at a temperature of 110 degrees This is fully as explosive as nitroglycerin, and safer and more convenient. Judson powder is made by heating a mixture of bituminous coal, sulphur and nitrate of soda and adding a proportion of nitroglycerin It is mostly hand labor, none relax the most intense vigilance As a consequence accidents are rare, when they occur there is no means of ascertaining the cause and there is little use for surgical assistance save in the case of those hurt by falling material The doctor has the gruesome task of identifying and collecting the remains In the apartments there is no noise all is absolute silence The machinery seems to work silently and even the men who drive the mules that haul the trucks do without the usual mule stimulus

The first condition to which my attention was called was known as the 'powder headache' All suffered from it who had anything to do with nitroglycerin in any way The head is generally sore this has to be experienced to be appreciated The workmen's wives who do the laundry work suffer severely every wash day Not only the underclothing worn by the men but any clothing even the bedclothes will cause this feeling In time they become inured but all [illegible] of the ironing Inhaling the steam from the hot clothes [illegible] very sick Rubbing a little dynamite on the [illegible] using a towel that a workman has used [illegible] lying on a lounge in one of their houses [illegible] a sleeping room auscultating [illegible] ache in one not accustomed to it [illegible] into the system by absorption or inhalation, acts on the vaso motor centers, causing dilatation of the left side of the heart and of the entire arterial system There is often a distinct reddening of the skin of the face and extremities, sometimes of a pinkish hue, changing to lividity, and blueness of the nails, lips, ears and nose, with conjunctival redness With this we have palpitation, thumping of the heart, pulse slightly quickened, soft and compressible, and an intense throbbing pain in the head, worse in the occipital region, and extending down the back of the neck At every pulsation the blood can be felt surging through the brain and in aggravated cases the movement of the blood can be felt in other parts of the body The affected person walks lightly on his toes, touching the heels to the ground sends an additional darting pain to the head Nausea and vomiting are often present, sometimes diarrhea, weakness, prostration and languor continuing over the next day Some are more susceptible, but all are affected to a degree My worst attack was caused by taking a nap on a lounge with my head on a pillow kindly loaned from upstairs by the nurse, on an occasion when I had to remain all night Occasionally the headache is absent, but nausea, vomiting or diarrhea are present One case had an eruption over the body like that from poison ivy After three or four attacks he was compelled to abandon the work In about a week's time the new men become accustomed to the poison and do not have the headache, or perhaps do not notice it, but nitroglycerin is rapidly eliminated and the relief is not permanent Two or more days' absence from work will cause a return when work is resumed Some have the headache every Monday morning Thirty men are engaged in filling cartridges and are called "powder punchers" The shells are paper cylinders dipped in paraffin, each holds from two ounces to a pound or more of dynamite They are filled by hand, with a funnel and rammer, the dynamite being taken up with a small wooden paddle The hands and arms are covered with the material, each man handles an average of 1000 pounds of dynamite, containing 50 per cent of nitroglycerin a day, making 2000 half pound cartridges After the headache and other acute symptoms disappear, another condition gradually develops This is dependent on a dilatation of the heart, particularly on the left side, and of the entire arterial system The pulse is soft, weak, obliterated by moderate pressure The first sound of the heart is accentuated, the apex beat exaggerated, murmurs resembling anemic are heard, but most frequently from aortic regurgitation, and occasionally from mitral insufficiency There is an engorgement of the left ventricle, the heart acts irregularly and palpitates easily The appetite is poor, especially for breakfast He rapidly loses weight, there are no dropsical symptoms, but a certain degree of mental dulness The punchers are especially dull and drowsy during work I call this condition "glonoinism"

The employes are all strong men who lead quiet, temperate lives, have the principal meal at the close of the day, use tobacco in moderation or not at all, rarely drink anything stronger than tea or coffee, alcohol in any form producing serious effects A simple glass of beer will cause headache, palpitation and reddening of the skin Cases have been known where men have become addicted to Gibbstown punch, composed of whiskey *ad libitum* and as much nitroglocerin as can be absorbed externally, the two mix in the system This compound is guaranteed to produce a more violent and serious form of intoxication than any other combination known to man Handling this large amount of nitroglycerin daily, the men's systems become impregnated, their wives, occupying the same sleeping apartment and doing the laundry work, become affected in a milder degree In these cases all symptoms are much milder, but similar to those mentioned before, the uterine functions are deranged, undue hemorrhage at the menstrual period is seen, they have premature births and fewer children Children born under these conditions are not as strong and vigorous as others of the community, cyanosis at birth is common, and they do not have the stamina to resist disease Diphtheria, not as a rule fatal with us, has had several victims in these families Other children's troubles are also especially severe and the fatality greater It is not safe for one of these men to carry his infant in his arms for any length of time, he is sure to have a sick baby Infants can not sleep in bed with their parents without dangerous results Early after the establishment of the factory the doctor was called to a child who had been taken in the father's arms to quiet it, both had fallen asleep, after two hours he awoke and found the child seriously ill, head back, moving from side to side, eyes partially closed—indeed in a collapse, death soon ensued Subsequent experience convinced him that the child was killed by contact with the father's body and clothing and by inhaling the breath All depressant remedies must be avoided The coal tar derivatives can not be used at all He found no record of phthisis among the men, but three of their wives have died of it, cases of pneumonia have died suddenly Bromids have no effect on the headache, and irritate the stomach Iodoform may be used when indicated, in capsules The treatment of glonoinism is palliative, and the work must be abandoned for a cure Strychnia gives the best results Dr Laws took the ground that it was probable that the use of smokeless powder so much by the Spaniards in the late war had caused their defeat so rapidly, owing to the glonoinism resulting to the men Had this been used by our men, it is possible that the majority of our men would have been very sick in a very short time, but possibly they could have become seasoned to it In the navy, with the movement of the vessels, the air might have blown off the results, but this point needs further investigation It is well known that sportsmen who use smokeless powder often suffer from headache, and this is an objection to the use of dynamite in mines, etc The combustion is never complete, and a large proportion of nitroglycerin is thus diffused in the atmosphere, or in certain cases the powder is found slowly burning near the gun He concluded by giving at some length the results of careful observation by instruments of precision

The Historical Address was delivered by Dr L M HALSEY, of Williamstown, and concluded the program A social hour was then spent, with a banquet, followed by toasts After an address of welcome, the AMERICAN MEDICAL ASSOCIATION was toasted and Dr Wm B Atkinson asked to respond The Doctor took the opportunity of showing the work done by the ASSOCIATION, its vast increase in power and membership, its relation to State and local medical societies, and urged upon all the importance to the profession of every respectable physician becoming a member, the benefit to each by the literature of the ASSOCIATION, the advantage of the membership to each, and finally the power it would give the ASSOCIATION in the counsels of the nation, if in place of 8000 members it had 50,000 or more, as it should have Then it could demand national legislation with the surety of obtaining it when backed by such a membership, extending to every town, city, etc, of the entire Union, and no longer would be seen the spectacle of the crying need of a National Board of Health with no attention paid to the demand on the part of Congress

SELECTIONS

Laugh and Get Well—*Scalpel* quotes the following story from "Bonaventure des Periere" "An ape is the hero of this discourse, *whose master fell sick of a fever, so grievously in fact* that the doctors had to be called in At first they clysterised him, and then they drew his blood, according to the mode of treatment at that time universally in vogue Next, for four consecutive days they drenched the poor man with drugs of various sorts, and finally he was ordered a mixture which the apothecary brought him with his own hands It was then early in the morning and the patient was asleep, so placing the bottle on a table and covering it carefully with a cloth, this black swan among practitioners, rather than interfere with nature's sweet restorer, incontinently departed After a little while the sick man awoke of his own accord and saw that his potion had arrived, but there was no one at hand to administer it to him, the inmates of his house having all gone out in order not to disturb his repose The door of the sick chamber happened to be ajar and presently in comes the ape to pay his respects to his master, but the first thing the inquisitive creature did was to mount on the table where the covered up medicine was standing Lifting a corner of the cloth he began to sniff at the open mouth of the flask, and, to judge by his expression, the odor was not much to his liking For all that he repeated the action several times, and at last ventured on a taste—*for his curiosity made it absolutely impossible for him* to refrain The compound had a bitter sweet flavor and master ape withdrew his muzzle very smartly, twisting his lips about in disgust and pulling the most comic grimaces it is possible to imagine Before long, however, the sweetness overcame him, and returning to the charge he took a second sip, then a third, and so on, until at last he finished the stuff.

The poor, long suffering patient's precious mixture was drained to the last drop! Now it happened that the individual in question, who was looking on all the time, was delighted beyond measure at the antics of the ape So much so, indeed, that he clean forgot all about his illness and burst out into such a hearty roar of laughter that he straightway recovered Owing to his access of joy, so sudden and so unexpected, his spirits revived, his blood grew thin and his humors returned into their proper channels, thus extinguishing the fever While he was revelling in his restored health the apothecary reappeared on the scene and inquired how he found himself and whether the last medicine had operated, but the ex patient was so full of merriment that he was unable to speak intelligibly He could do nothing but laugh, whereat the other waxed exceeding wroth, believing that he was the butt of the unseasonable mirth Then, with a great effort, the laugher contrived to exclaim 'Ask the ape what operation it has had' As may be supposed, this answer did not tend to smooth matters, and the incensed druggist was about to give vent to some furious rejoinder when lo! the ape himself afforded a practical solution to the imbroglio, while at the same time supplying proof as regards the potency of the mixture Comprehending at once that the animal must have acted as the sick man's *locum tenens*, and being happily gifted with a sense of humor, the worthy apothecary forthwith went off into a roar on his own account, and the situation, lately so strained, resolved itself into a friendly duel between the ex patient and his medical adviser as to which should laugh longest and loudest

Veratrum Viride in Puerperal Eclampsia—Dr John Gordon in the *Lancet* (January 15) reports that one hypodermic dose of five minims of the fluid extract of veratrum viride resulted in cessation of convulsions in the parturient woman, reduction of arterial tension and pulse rate, the laxation of the rigid os uteri After this labor progressed normally, consciousness gradually returned and after two days the patient was in good condition, no other treatment being used The case was interesting as having been treated solely by the action of veratrum viride, and therefore one is presumably free to deduce that the improvement which followed was due to the action of the drug The outstanding features in the action are the lowering of arterial tension, the slowing of the pulse rate and the absence of convulsive seizures after the dose of the drug was given Within fifteen minutes of administering the dose there was a perceptible change in the character of the pulse It had been firm, hard and bounding, but now became softer, was full and easily compressible The number of the beats was also reduced from 92 or 100 to 84, and there was slight inequality in the value of the beats Five minutes later the pulse rate was reduced to 72, in another five minutes the pulse had become 54, and fifteen minutes later still it had reached its minimum of 52 Afterward for two hours the pulse rate was taken at intervals of fifteen minutes and kept varying from 54 to 60 per minute When taken five hours later it was still 56 and five hours later again it was 60 The etiology of puerperal eclampsia is obscure The frequent albuminuria with which it occurs gave rise to the opinion that it was the result of uremia, although cases occur where there is no albumin present, and other patients with an abundance of albumin escape, it is thought that renal insufficiency is the most frequent if not invariable cause Traube and Rosenstein refer its causation to acute cerebral anemia resulting from changes in the blood incidental to pregnancy, the watery condition of the blood being associated with increased arterial tension Dr Angus Macdonald of Edinburgh found from postmortem examinations extensive anemia of the cerebro spinal centers with congestion of the meninges without edema He attributed the convulsive attacks to irritation of the vasomotor centers from an anemic condition of the blood produced by the retention in it of excrementitious matters that ought to have been thrown out by the kidneys Applying the recognized physiologic actions of veratrum viride we know that one of its alkaloids, jervin, is able to reduce the force of the heart beat by its direct influence on the cardiac muscle, and that it is capable also of producing a general vasomotor paralysis, that it likewise reduces the pulse rate by a direct action on muscle, while the other alkaloid, veratroidin, by stimulating the inhibitory nerves also reduces the pulse rate, and both alkaloids, namely, the jervin and the veratroidin, are, in addition, depressants to the motor centers in the spinal cord We have, therefore, in veratrum viride, an agent the physiologic properties of which meet the supposed pathologic conditions in puerperal eclampsia, namely, increased arterial tension and cerebrospinal excitement

Pasteurized Cream and "Viscogen"—A recent bulletin of the U S Agricultural Department treats of the sterilization of cream It shows that some of the advantages of this product are that it is more convenient to handle, there is less loss from spoiling, and it is free from disease germs The cream will keep for several days without souring An objection to pasteurized cream is its lack of consistency The cream does not appear to be so rich as normal cream, because it is thinner and less viscous, and does not whip so readily So strong has this objection become on the part of consumers that it has materially retarded the introduction of this method of supplying cream The Wisconsin Station has been studying the problem for some time, and has recently suggested a remedy It is found that the consistency of pasteurized cream may be completely restored by the addition of lime in solution On account of the slight solubility of lime the use of simple lime water is impracticable, as it dilutes the cream to an undesirable degree, although even lime water materially increases the consistency of pasteurized cream It is proposed to use lime dissolved in a solution of granulated sugar (sucrate of lime) Such a lime solution contains more than one hundred times as much lime as lime water Consequently it may be added to cream in sufficient quantity to produce the desired result without perceptibly changing the cream otherwise This solution of lime in sugar is called "Viscogen," on account of its viscous producing properties, and the treated products are called 'Visco cream," "Visco milk," etc "Viscogen" is not a commercial article, but may be easily prepared The method described by the Station for its preparation is as follows

Two and one half parts by weight of a good quality of cane sugar (granulated) are dissolved in five parts of water and one part of quicklime, gradually slaked in three parts of water This milk of lime should be poured through a wire strainer to remove coarse, unslaked particles and then added to the sugar solution The mixture should be agitated at frequent intervals, and after two or three hours allowed to settle until the clear supernatant fluid can be syphoned off Where large quantities are made, we have found it convenient to mix the ingredients in a revolving barrel churn The clear liquid (Viscogen) should be kept in well stoppered bottles which are filled full, for the reason that it absorbs carbonic acid from the air, thus reducing its strength and also because where air has access to the solution, it darkens in color after a time This latter chemic change, however, does not seem to impair its usefulness The quantity of lime recommended in the above formula is considerably more than will be dissolved by the sugar solution This excess is added because of the impurities contained in our Wisconsin lime, which is of dolomitic origin and hence contains nearly as much magnesia as lime As these impurities are practically insoluble in the sugar solution they have no effect in the prepared viscogen

PRACTICAL NOTES

On the Use of Thyroid—According to the *Medical News*, September 17, the Berlin professor, Dr Thierfelder has advanced the following opinion as to the modus operandi of thyroid therapeusis In the first place, the effects upon metabolism may be stated as follows 1 Upon the [illegible] metabolism and elimination, its influence is stated, by some, to remain normal; by others, including Chittenden, the elimination is stated to be slightly but uniformly increased, the diet remaining the same. Those observers who have found the daily elimination of nitrogen the same, or decreased, have possibly failed to take into account the injurious effect of large doses of thyroid upon the appetite and digestion, with consequent decrease in the amount of food (and nitrogen) ingested. The increase in the amount of nitrogen eliminated remains, however, always slight. 2. The effect upon general metabolism is shown by the decrease in weight which follows the prolonged administration of thyroid, especially if in excessive doses. As there is not a corresponding increase in the amount of nitrogen eliminated, this loss must come chiefly from the non-nitrogenous elements of the body, that is, fats or the carbohydrates. This is apparently proven in the following ways: *a*. There is a marked increase in the amount of the CO_2 eliminated by the body, showing increased oxidation of the carbonaceous materials of the body. *b*. The loss of weight is most pronounced in those suffering from obesity, leading to its use as an "anti-fat" remedy. *c*. In mild cases of diabetes mellitus the sugar may be made to diminish or disappear entirely under the use of thyroid. These effects may be explained by one or both of the following hypotheses: 1. It may exert a specific stimulating effect upon the areolar tissues of which adipose tissue forms only a modification, due to the deposition of fats. 2. It may increase oxidation by increasing the oxidizing power of the blood. Its demonstrable effects upon the blood are limited, usually showing a slight increase in the number of mononuclear leucocytes, other changes in the blood, found at times, being explicable by changes in the organism, the alteration in blood constitution being secondary, as for example, the increase in hemoglobin and red corpuscles after administration of thyroid in bleeding fibroids.

Compound Fracture of the Patella.—Mr. Battle, in the London *Lancet*, September 10, reports the case of a cabman, aged 53 years, who on April 22 was injured in the knees by the kick of his horse. On the right knee there was a transverse lacerated wound extending almost the whole width of the limb. Through this opening the interior of the knee joint could be seen, and it was at once evident that the right patella had been broken transversely into two large pieces, though several smaller fragments could be felt. The two large pieces formed about five-sixths of the patella. The wounds were temporarily dressed with an antiseptic application, and a back splint was applied to the right leg. On the evening of the day of admission, about five hours after the accident happened, the patient was anesthetized, and Mr. Battle proceeded to wire the bone. An incision three inches long was made directly upward from the middle of the horizontal wound on the right knee, the flaps were reflected on each side of this incision, and the knee joint was completely exposed. The joint cavity, the bony fragments and the surrounding parts were then thoroughly washed in a solution of perchlorid of mercury. Two or three small fragments required removal. The two larger pieces of bone were joined together with silver wire and the ends of the wire, after having been twisted, were hammered on to one of the fragments. The aponeurosis over the patella was united by silk sutures and the edges of the skin wound, having been carefully pared, were drawn together with interrupted sutures. A drainage tube was inserted through a separate incision in the outer side of the joint. A dressing of double cyanid gauze and absorbent wool was applied and the limb was enclosed in a plaster of Paris splint. The wound on the left knee was sutured and dressed in a similar manner. On April 22 the right knee was dressed and the drainage tube removed. On the 24th the temperature rose to 100, but fell to normal on the bowels being opened by an enema. On May 3 the skin stitches were removed and the plaster of Paris splint exchanged for a wooden back splint. On the 12th the patient was allowed to sit up and on the 19th the splint was removed, a small dressing only being applied. On the 24th he was discharged from the hospital; he had firm union of the patella and was able to walk. Further improvement has resulted.

Suppurative Splenitis from Tight Lacing.—Dr. B. M. Cromwell describes a case of suppurative splenitis caused by tight lacing and violent exercise, which was successfully treated by operation. The patient was a strong, healthy girl, 17 years of age, who in order to escape an impending shower ran for the greater part of a mile on a hot day. After running for some time she felt a pain in her left side, and reached home in a state of more or less collapse. The pain ceased before she reached home and did not return until the next day, after which it was continuous. Dr. Cromwell, on examining her two or three days afterward, found a deep sulcus about the margin of the ribs, and in answer to her inquiries the girl explained that while she was running her corset was loose enough but the band of her petticoat was too short and she had to pull it very tight to button it. Above and below the sulcus there was a marked tumefaction. Percussion revealed dullness over the whole left side, extending to near the brim of the pelvis and anteriorly to near the median line of the abdomen. The edge of the tumefied spleen could be plainly felt around the greater part of this dull space. The diagnosis was an enlarged and inflamed spleen, and as no improvement followed from iodin ointment and blistering, an incision was carried through the abdominal parietes into the substance of the spleen. At first there was a copious flow of bright arterial blood, then a small ribbon of pus was mixed with it, and as the pus increased in quantity the blood diminished until the escaping fluid consisted entirely of pus, which continued to be discharged for many days under the influence of poultices, and for several days after it ceased there was a discharge of serum. The total amount of blood, pus and serum was estimated at about 30 oz. The girl made a good recovery and is now in excellent health.—*Maryland Med. Journal*, Aug. 13.

Cocain in Ophthalmic Practice.—Dr. Theobald, in the *Johns Hopkins Hospital Bulletin*, writes a word of warning about the too free use of cocain in the treatment of diseases of the eye. It has come to be quite common for the general practitioner to use cocain in eye inflammations, the inducement being that it diminishes the pain temporarily and so causes a measure of relief. The conditions in which it is used are various. He says: "I have met with many instances in which it was prescribed in simple catarrhal conjunctivitis. There seems to be no indication for its employment under such circumstances, and it is capable of doing much more harm than good. Because of its pronounced disturbing effect upon the nutrition of the cornea, cocain is not a remedy to be used carelessly in eye diseases. It acts, as you know, through the sympathetic nerves or chiefly in that way, and, besides anesthetizing the eye, it dries the cornea to a remarkable degree. The cornea not only becomes dry, but the epithelium becomes loosened, so that it is easily rubbed off, sometimes by the friction of the lids, or from the slightest touch of the instruments used. Any agent that has so marked an effect as this upon the nourishment of the cornea certainly seems not to be a safe one to use, unless there is a clear indication for its employment. The field of usefulness for cocain, apart from its anesthetic action, is extremely limited. I scarcely think, indeed, there is any occasion to prescribe it as a remedy in eye diseases, though it may be used sometimes to increase the action of other drugs; for instance, atropia, or homatropia, will dilate the pupil more quickly and powerfully if combined with cocain. Even here I prefer to keep the solutions separate, and to instill the cocain first and then the atropia. It is also useful as preliminary to the application of astringents or caustics, like the sulphate of copper or nitrate of silver, as it greatly lessens the discomfort, but this is only another phase of its anesthetic action.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE

Per Annum in Advance	$5 00
Foreign Postage	2 00
Single Copies	10 Cents

In requesting change of address give old as well as new location.

Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No 61 Market Street (Occidental Bldgs) Chicago Illinois

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SATURDAY, OCTOBER 1, 1898

THE BACILLUS PYOCYANEUS IN HUMAN PATHOLOGY

In 1889 CHARRIN ("*La maladie pyocyanique,*") published a thorough research concerning the bacillus pyocyaneus Before that time practically nothing was known concerning this organism in connection with diseases of man or in animals, although its occurrence in green or blue pus had already been observed by GESSARD Experimenting upon rabbits, CHARRIN soon found that the bacillus gives rise to a disease of definite clinical entity, and to this he gave the name *maladie pyocyanique* Others have studied pyocyaneus infection in the dog, as well as other animals, but the rabbit is the most susceptible

Infections with the bacillus pyocyaneus in man bear a marked resemblance to the experimental forms, at the same time it may, like other pathogenic organisms, occur in a purely saprophytic condition in various parts of the human body Thus it has been found in the saliva, sputum and sweat, also in the stomach, and KOCH early observed it in tuberculous cavities and regarded it at that time as incapable of any pathogenic action

KOSSEL and others have pointed out its relation to certain cases of purulent inflammation of the middle ear in children ERNST[1] of Boston observed it in the pericardial exudate during life, and G BLUMER[2] found it in practically pure culture in a case of acute angina that clinically resembled diphtheria It has also been isolated in cases of urinary infection BARKER[3] and others have shown that it may produce interesting cutaneous lesions Meningitis, bronchopneumonia, diarrhea and dysentery have all been demonstrated to have been caused in a few instances by this organism And, finally, it has been shown by a number of observers that it may give rise to a general infection

In the *Philadelphia Medical Journal* of Sept 17, 1898 Dr LARTIGAU of Albany adds a report of three cases in which serious inflammatory conditions and general infection resulted from invasion of the bacillus pyocyaneus In the first case there was a general infection, which may have been primary in the cul-de sac of Douglas, thence extending to the general peritoneal cavity and into the system, but it would seem even more probable that the original infection came from the genital apparatus This case, and one of BARKER'S, demonstrate the occurrence of acute peritonitis due to the bacillus pyocyaneus In the second case the bacillus was isolated from hemorrhagic infarcts in the lungs and the right kidney, and from the exudate of a double serofibrinous pleurisy In the third case a general infection took place from an amputation stump of the leg, on account of long-continued necrosis of the tibia

Undoubtedly many cases of infection by the bacillus pyocyaneus escape recognition because the organism fails to produce its green pigment for days, or perhaps not until it has been passed through animals In a bacteriologic study of 200 cases of suppurating wounds, JADOWSKI[4] observed the organism only twice, in a systematic study of 800 consecutive autopsies made at the Johns Hopkins Hospital, BARKER encountered eleven cases of local pyocyanic infection, and the three cases observed by LARTIGAU were observed in the bacteriologic examination of 100 consecutive autopsies

The *maladie pyocyanique* in man resembles the other more familiar septicemias, the general symptoms are those of all infectious diseases The temperature usually remains high, irregular oscillations are not unusual The spleen is enlarged, and the urine ordinarily contains a small amount of albumin Specific pulmonary lesions may develop as bronchopneumonia and pleurisy Intestinal disturbances, are marked by diarrhea, the dejecta in some instances containing more or less green pus or, the pigment may become more marked after the stools have been exposed to the air Among other rather interesting symptoms are the cutaneous lesions in the form of bluish eruptions or petechiæ or more rarely, papular rashes These lesions are generally found on the trunk, limbs, and scrotum, and they may appear at different periods in the course of the disease From the fluid in the bullæ the bacillus pyocyaneus has been occasionally isolated

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[1] American Journal of Medical Sciences 1894 Vol cvi p [illegible]

[2] Johns Hopkins Bulletin, 1895

[3] The Journal July 31 18[illegible]

[4] Quoted by Lartigau

There is also a chronic form of the disease, which has been studied quite a little experimentally, and this is characterized by hemorrhages into the skin, paraplegia and monoplegia, neuritis, myelitis, contractures, and muscular atrophy, as well as vasomotor and sensory disturbances. This remarkable nervous form of pyocyanic infection has lately been observed in man. JADAKOWITSCH is quoted by LARTIGAU as having described an interesting case of this nervous type. The patient had a chronic eczema of the legs of ten years' standing, frequently complicated by periods of ulceration, the secretion being blue. At these times he would manifest peculiar nervous symptoms; thus, at the end of a period of suppuration, paresis and anesthesia of the whole right arm developed. After another siege of blue suppuration, weakness and wasting, with dyspnea and rapid pulse developed, recovery taking place four months later. After the third return of the blue suppuration there occurred diarrhea, sensory disturbances involving particularly the ano gluteal and scrotal regions, and in this stage the bacillus pyocyaneus was isolated from the urine.

Among the anatomic lesions of pyocyanic septicemia may be mentional focal necroses, hemorrhages, and parenchymatous degenerations. One especially noteworthy feature is the development of intestinal ulcers in systemic infection. These ulcers more frequently form in the small bowel. In some examples there is merely a superficial necrosis of the mucous membrane, sometimes diffuse, sometimes limited. As far as known, these ulcers, which rarely pass beyond the mucosa, have not caused perforation. There may also be an acute hemorrhage enteritis, with or without ulceration. The stomach is commonly the seat of such inflammation. There may be multiple minute hemorrhages into the serous membranes.

The diagnosis of local infections can be made only by means of bacteriologic examination. The diagnosis is frequently aided by the presence of green pus on the dressings. In cases of general septicemia it would be extremely hard to separate it from other forms of infection; the intestinal symptoms, if present, or the existence of blue or green pus in some local lesions, would be very suggestive. The WIDAL test might be of service in distinguishing typhoid fever from such cases. The demonstration of the bacillus pyocyaneus in the urine or in the stools might further the diagnosis. Experimentally the serum diagnosis in pyocyaneus infection has been demonstrated, and this might prove to be of considerable clinical utility.

POSTOPERATIVE PSYCHOSES

A subject that formed one of the chief themes for discussion at the late annual Congress of French Alienists and Neurologists and which was also prominently brought before the corresponding body in this country at its latest session may be fairly considered as one of the questions of the day of modern psychiatry. As presented, it is not altogether a simple one; it may be admitted that surgical interventions are sometimes followed by insanity and that there exists in such cases a relation of cause and effect, but it will still remain to be settled whether this is anything more than one of the accidents that may occasionally happen without any special significance, as well as—allowing this to be not established—whether there is any special type of mental disorder thus produced, and what particular class of operations are most likely to have such consequences. It is more particularly within late years that certain gynecologic operations have been largely credited with a special influence in producing mental disturbances, and this subject has been actively discussed, not only in the bodies mentioned, but also in the Paris Society of Surgery and elsewhere. It is not an unnatural presumption, when we consider the marked effects of early ablation of the testicles on the organization and the profound systemic disturbances that accompany the menopause, that the premature removal of, or interference with, the ovaries might be sometimes followed by serious mental disorder, and it is probable that this preconception has had its influence, not only in inciting observation in this direction, but perhaps also in affecting the estimation of the results of operations in so far as the special mental symptoms are concerned. A temporary or permanent mental disturbance following a gynecologic operation would be, it may be, more readily attributed to the interference with the ovary than to other causes—predisposition, general shock, the anesthetics used, etc.—that may have had the predominant part in its production. The theory of internal secretion which is just now prominently before the medical profession also affords suggestions in this connection that favor the notion that serious mental disturbances may follow ovarian operations. A priori, there would seem to be some reasonable grounds for the belief that there might be a special liability to postoperative psychoses from certain gynecologic operative procedures.

As regards surgical operations elsewhere than in the genital organs, the presumption is less evident, but postoperative mental disturbances may follow any kind of surgical interference and, according to one authority at least, they are apparently rather more frequent after operations on the eyes, than those of most other regions. From what we know of the mental effects of surgical operations in themselves, which have been made the subject of an interesting study by WHITE, a few years back, it would not seem improbable that an occasional attack of insanity should be one of their untoward results. Just how far, however, this is to be attributed to the operation itself and not to other accessory conditions is still, for most cases at least, an open question.

The report of M. RAYNEAU to the Association of

French Alienists and Neurologists and the discussion, in which such well-known alienists and surgeons as **Regis**, **Picque**, **Joffroy**, **Garnier** and others participated, are of especial interest as affording an index of what may be assumed to be the present state of opinion in that quarter on this special subject As a whole, they leave the question still in an unsettled condition and one that affords the chance of a rather wide choice of opinion without cutting loose from respectable authority According to M **Rayneau** there is no special type of postoperative insanity, and except in case of thyroidectomy or operations on the cranium, the chief part in the genesis of postoperative psychoses must be attributed to hereditary or acquired predisposition, where only a slight cause is necessary to upset the unstable brain As to any special liability from gynecologic procedures, he rejects it altogether M **Regis**, on the other hand, whose psychiatric experience is certainly wide enough to give weight to his opinion, held that there is a special type, that of mental confusion, that commonly appears in the insanity following operations, which itself may be due to various causes—shock, the anesthetics, septicemia and in the most typic cases, to auto-intoxication either already existing, or induced in persons of weak resistance by the shock of the operation itself Others in the discussion laid weight on the predisposition, and one with extensive army experience called attention to the rarity of this complication in military surgery, which he credited to the selection of recruits eliminating the predisposed The majority of French surgeons, it would appear, consider the operation itself and its locality as an unimportant factor in the production of these postoperative mental disturbances

The subject is a complex one, and it is evident that no one series of observations, however extensive, can have much value for the decision of the questions involved To get the complete facts as to the effects of operations on the mind the whole subsequent history of the patients must be followed up, and remote as well as immediate results be ascertained Especially is this true as regards the results of operations on organs like the ovaries and testicles and those on the brain itself Even the effects of extensive major amputations might well be studied for their remoter mental effects, the ablation of extensive portions of the body has its effects on the structure of the brain, and this may sometimes involve the mind Apparently little attention has been given to this possible later type of surgically caused mental derangement, but it is properly to be included in the postoperative psychoses

The mental disorders immediately following surgical operations may well be due in many instances to the effects of shock anesthetics, or any other of the multiple possible factors, and the question of predisposition is always to the fore In fact, the predisposed form so large a proportion of the population that it is almost remarkable that so serious a general provocation as is afforded by a surgical operation, with its adjuncts of toxic anesthetics, shock etc , is so rarely attended by immediate or secondary mental disorder

LEGITIMATE PRESCRIBING

Many editors have pointed out in the columns of medical journals the importance of accuracy in therapeutics, or in other words, the necessity of using those pharmaceutic or chemic substances which are placed in our hands in such a condition of purity or excellence that no doubt concerning their reliability can possibly arise It may not be out of place for us, at this time, to call attention to an even more pressing need on the practicing physician, and that is, the necessity of avoiding the use of compounds devised by persons ignorant of chemistry on the one hand, and of medicine on the other, who have sufficient pharmaceutic knowledge to be able to prepare for the market preparations pleasing in appearance, and who have sufficient capital and unlimited impudence to claim that most of the ills which afflict our patients can be relieved by the employment of their peculiar specialty There is not a physician in this broad land who does not receive several times a week circulars, advertising, not only legitimate pharmaceutic preparations, but various compounds of cheap and ordinary vegetable and mineral drugs to which have been given trademarks and registered names, and which, in consequence, cost the patient far more than a simple prescription containing the same ingredients Thus, it is well known to most of the profession that a very widely advertised drug, designed chiefly to relieve pain and reduce fever, contains as its most active ingredient, acetanilid, and we have before us, at this moment, a circular recommending a number of preparations, which supposedly contain quinin, to which are added other substances designed on the one hand to produce movements of the bowels, to act as a tonic, and to be a substitute for that most valuable and cheap alkaloid, quinin, itself Further than this every one of these circulars contains a number of letters from supposedly reputable practitioners, stating that they have used these products and obtained extraordinary results therefrom In some instances these results have not really been due to the use of the compounds named, but the patient has happened to improve at the time that they were administered, and, according to the argument of *post hoc propter hoc*, the new compound has received the credit, and the physician has congratulated himself upon the discovery of a new remedial agent, when in reality he should be condoling with himself that he has lacked ingenuity and common sense to such an extent as to have been unable to devise for himself a similar combination, and further, has been misled into awarding the credit for the recovery to a substance which does not deserve it

The very large number of compounds which are placed upon the market, which chemic analysis soon proves to be but mediocre preparations, is an illustration of the sad lack of medical education possessed by some practitioners It is humiliating to think how many of the profession are willing to take the "say so" of the commercial traveler, who often is neither a graduate of pharmacy nor medicine as to the therapeutic efficiency of some drug which he may be hawking about the country Is it surprising that the laity will patronize Indian herb doctors and traveling salesmen in highly decorated wagons, when physicians will use products compounded and marketed with no greater possibilities of reliability than those which we have named It is a characteristic of the Anglo Saxon race that they are independent in thought and action, but it would seem as if some members of the medical professional were willing to be led hither and thither by the specious arguments of persons who have no more claim to our confidence than that which they can win by a smooth tongue and flattery No physician should prescribe a remedy unless he has a clear idea of what he wishes to accomplish, and, therefore, it is necessary that he shall first make an accurate diagnosis, and second, that he should have a clear idea of the physiologic action of the remedy which he employs How is this possible when he is simply given the information that such and such a preparation is useful in such and such diseases, and has placed in his hands a combination unknown to chemistry, to the honest pharmacist and to the pharmacologist? Why should the physician prescribe such products any more than he would prescribe an herb handed to him by an old woman at the roadside, with the statement that she had found it useful in the treatment of certain ailments? She, at least, would have put it to the clinical test, which is something the average promoter of these combinations has never done Let us remember the old adage, "be sure you're right, then go ahead," and let us have enough respect for ourselves and our profession to give only those remedies which come to us through reputable and ethical channels

THE SUFFERING OF TROOPS ON TRANSPORTS

The daily press of this country has told us of the foul condition of the ships used in transporting troops from Santiago to Montauk Point, and of the bad water, bad food and bad treatment which our unfortunate soldiers received during the voyage which brought them from the field of victory, and of subsequent prostration by disease, to a convalescent camp in the United States No doubt there was much suffering on many of the troop ships The men were broken down by their exposures and by attacks of yellow fever, malarial diseases and dysentery Their transportation was decided upon to avoid the greater danger of a continued stay in the miasmatic locality which had sapped their strength Great danger attached to the process of removal Great care had to be exercised by medical officers at the point of embarkation to prevent the dissemination of yellow fever in these crowded vessels, and that no great disaster occurred on any of these ships reflects credit on the medical officers concerned It was to be expected that there would be much individual suffering on these ships, but certain official reports which we have seen indicate that there were few grounds for the extravagant headlines and ghastly exaggeration with which the newspapers greeted the arrival of every fresh transport Captain WALTER D MCCAW, Assistant-Surgeon U S Army, states that the Sixth and Thirteenth regiments U S Infantry embarked August 7, on the *Vigilancia* The troops were reduced to the last degree in health by malarial poisoning and repeated outbreaks of fever In fact, all were either sick and still suffering from fever or manifested the results of the previous attacks by extreme feebleness and profound cachexia The sanitary conditions on board were fairly good, the ventilation of the sleeping quarters of the men was satisfactory The vessel was not overcrowded, and plenty of deck room was available As the voyage was made in favorable weather the health of the command improved marvelously The travel ration could not be eaten by the majority of the men, but not soup was served, which proved of great value Sixty-seven men were on sick report on embarkation No death occurred during the voyage, and on arrival off Montauk Point, August 14, the sick list was reduced to fifty two, and these were mostly convalescent The gain in general health was most gratifying

Every statement made by the medical officer is sustained by General ADELBERT AMES, who was in command The vessel furnished ample and comfortable accommodations for officers and men, the command numbering 698 men The ship's officers and crew were attentive to all the wants of the command, providing every means possible to assist the troops in the preparation of their meals and making them comfortable in their quarters The water for drinking and bathing was good and plentiful The weather was exceptionally good during the entire voyage, and the health and spirits of the men improved each day

This relates to only one of many voyages made, but it suggests that if we had more of these official reports before us we would have to correct many of the impressions made upon our minds by the perusal of the press dispatches

THE INTERNATIONAL TEMPERANCE CONGRESS

Many persons have the impression that temperance work is confined to this country and England, while on the Continent, the art of moderate and temperate drinking has become so perfected that temperance work or societies are not needed It will be news to

CORRESPONDENCE

Concerning Criticism of the Medical Department

Parkersburg, W Va , Sept 20, 1898

To the Editor —Just now it seems to be the thing for every one to criticise everything pertaining to the conduct of the war, from the head of the War Department down all the ranks to the lowest officer in the field, all are under fire Meantime it is refreshing to read plain and courageous articles—statements of facts, similar to that of Drs Sutton, Senn and others who have served in the field and camp A new generation has come up ignorant of the unavoidable conditions that pertain to war, who have forgotten the hardships, cruelties and sufferings of 1861 1865, and who have expected an army to be created, drilled and made efficient from raw material in rank and file, without mistakes, that large camps be established, veritable cities in size, and where the unsanitary conditions arising from the congregation of many men would be avoided by strict sanitary precautions being carried out by men taken from civil life, who were ignorant of the science of military sanitation, indeed, men who were ignorant of the rights accorded by military regulation to secure proper food, medicines and camp hygiene In Dr Dabney's letter in the JOURNAL of the 17th, we have the criticism of a sanitarian who is painfully ignorant of the situation he presumes to criticise Let a city, if possible, spring up in the same time as one of these camps, fully supplied with sanitarians, and see whether it would be provided with a pure and adequate water supply! whether it would have an efficient administration for the disposal of garbage, of excreta, of sanitary cleanliness? Would these officers secure the co operation of the inhabitants to avoid the use of impure water, unhealthy food, maintenance of personal hygiene? Certainly not! Sometimes in mining towns we see similar conditions, and we see similar results It is not fair to compare the conditions in these camps with that in cities long established, with the organizations with years of experience behind them As to the moving of hospital trains and its attending dangers, we had somewhat similar conditions in 1861 1865, yet there was no widespread dissemination of typhoid fever, camp diarrhea or dysentery throughout the country As to typhoid fever, it prevails all over the country at this season In a majority of cases there is little disinfection of excreta secured From country, and towns on the banks of streams of all sizes, this excreta reaches the rivers from which towns and cities derive their water supply, and health authorities of all the States have not secured any abatement of the evil, by any means They have not yet, as far as I know, secured such detention of such patients while their excreta is subjected to such examination as he proposes for our army confrères to carry out Sanitary officers can direct that such and such procedures be carried out, just as the Surgeon General had done; and then fail to secure the performance Let us have a little common sense with our fault finding! A summer campaign in Cuba meant sickness and death, summer camps for northern troops in the southern States meant the same Our troops in these days have had easy times, save at Santiago, as compared with those in the days of 1861 1865, both blue and gray

In conclusion, Dr Dabney makes an invidious comparison between the medical men of the army and those of the Marine Hospital Service, and proves it by the case of the marines at Guantanamo, their freedom from disease as compared with the troops at Santiago, due, he thinks, to the superior skill of the Marine Hospital Service or surgeons It is the first time we ever have heard that the U S Marines are a part of the Marine Hospital Service and not attended by their own naval surgeons We think the conditions are not at all the same The medical men in the regiments were taken, in the case of volunteers, from civil life, appointed after examinations by boards chiefly appointed by the governors of the various States, and included many men who had served with the National Guard If ignorant, it is the fault of the system The volunteer surgeons appointed by the National Government included many who would adorn any position, either in military or civil service Of course there have been mistakes, bad appointments, and carelessness, but nothing like to the extent the critics allege May we profit by the experience and not be rushed into a war again before we are at least half way prepared for it Least of all let us of the medical profession throw stones at those of our brethren who are at the head of medical service in the army Respectfully,

W H Sharp, M D

Criticism of a Medical Directory

Mount Clemens, Mich , Sept 22, 1898

To the Editor —There has been a question coming up from time to time as to the reliability of the information published by R L Polk & Co , in their "Medical and Surgical Register of the United States " This question has been discussed *pro* and *con*, some claiming that it was reliable and others that it was not It has come to the notice of physicians generally that the names of men were inserted as practicing physicians, whose evidences of having graduated were rather shady, but not until the present year have I known of any instance where they have sought to compel physicians to buy their publication by giving them a bad standing before the public if they did not That seems to have been done in my case in the present edition without any other motive (further than that as treasurer of the Mount Clemens Sanitarium Co , they solicited an advertisement for two publications which they are getting out, namely "The Medical and Surgical Record," and the "State Gazeteer," which I did not think, from a business standpoint, would be a paying investment) In the two former editions, 1893 and 1896, the name and standing of the college at which I graduated were correctly given, but in the present edition, the statement concerning me is as follows "Alfred N Shotwell, R. ¶," followed by a mark which indicates, "claims to have graduated, but the records do not show that a diploma was granted to any one bearing this name " The fact of my graduation has never been questioned before, and I refer you as to the untruth of their statement, to the faculty of the Detroit College of Medicine, where I was graduated Feb 29, 1884, any member of it, or to any of the following societies The Michigan Medical, the Northwestern, the AMERICAN MEDICAL, and the Pan American It would seem that it is about time for physicians to make a stand in this matter, as farther down in the registration of this town (if you will follow it), appear the names of two masseurs among the names of physicians I know nothing whatever about the standing of these men, and it is foreign to the question, further than that they do not claim to be graduates of medicine, nor do they practice medicine in any shape or form Is this a register and directory of physicians, or is it a directory published simply for the dollars and cents that these people can get out of it? I shall be glad to take this up with you and furnish you any other data that I can, and will furnish certificates from the officers and faculty of the college at which I graduated, which will substantiate the statement that this publication is unworthy of the medical profession, and should be sat down upon by all reputable physicians as unreliable and unworthy of their confidence

If you will give this matter publicity through your journal in any way that you think proper, after a thorough investigation, I shall be very glad to have you do so

Very sincerely yours,

A N Shotwell, M D

A Grave Menace to the Public Health, A Correction

NEW YORK, Sept 24, 1898

To the Editor —In your issue of September 17, p 666, the statement is made in a letter signed by "T S Dabney, M D" "Eight hundred marines were camped for many weeks at Guantanamo and their health remained excellent, and why? Because the surgeons of the Marine Hospital Service not only understand preventive medicine, but they *practice it*"

I beg to correct the inference that the United States Marine Corps is under the medical supervision of the Marine Hospital Service The latter organization was established for the care of sick and disabled sailors of the merchant service, a "mercantile marine," as it is sometimes termed, thus, doubtless occasioning the misunderstanding

The United States Marine Corps is part of the United States Navy, and is cared for exclusively by the officers of the medical department of the United States Navy The writer would have been strictly within bounds if he had applied to them the statement that "every man in that service is qualified for the work he is assigned" Not only in our home ports, but on foreign stations their success in preventing inroads of communicable disease is noteworthy and commendable Furthermore, the officers, seamen and *marines* of the United States Navy are, first of all, cleanly in personal habits, second, obedient to orders and observant of sanitary requirements, and third, not given to whining (for *lactopeptin*, etc) and complaining because of the hardships incident to the service, three essential conditions in time of war Very respectfully,

ALBERT L GIHON,
Medical Director, U S Navy (retired)

Gonangiectomy

DUNNING, ILL, Sept 22, 1898

To the Editor —In one of my recent articles published in the JOURNAL I used the word gonangiectomy, meaning by it an excision of a portion of the vas deferens As it seems to be a new word, and since I have had a number of inquiries as to its root words or derivatives, I take this means of answering, and give first, the Greek, then the English equivalent, with diacritic markings for pronunciation, then the word as compounded, with its definition, "Lidell & Scott's Unabridged Greek English Dictionary" The translation may not be absolutely literal

γονή, gona semen
ἀγγεῖον, aggeion a vessel
ἐκτομή, ectoma excision, or cutting away

As compounded, gonangiectomy excision of a vessel carrying semen Very respectfully,

GEO W JOHNSON, M D

Secretary, Department of Health

FAIRFIELD, IND, Sept. 24, 1898

To the Editor —Some of the papers of our land have had much to say of sanitary conditions, and made attacks upon the medical department, the truthfulness of which will be brought out or refuted by investigation

Present reports from surgeons themselves prove the fact that they have done noble work, also that many embarrassing conditions arose not due to any lack of service upon their part, but because of limited authority, being handicapped by officers of other departments, and without medical knowledge

All general orders must come from the Secretary of War and in such trying times it seems quite enough for him to give attention to other duties In truth, this department should be directed by the Secretary of the Board of who should a member of the cabinet and a physic his duty to look after sanitary conditions give general orders to surgeons, and see that is equipped for efficient work, and care for the noble men, "our soldiers"

Not only is there a demand for this additional cabinet member during war, but he would fill a long felt want in times of peace, and prove a valuable addition to the president's family

Yours respectfully THOMAS L COOKSAY, M D

Instruments for Fen Cho Fu Hospital

SIOUX CITY, IOWA, Sept 19, 1898

To the Editor —Thanks are due to the JOURNAL as well as Dr Webster of Chicago and Dr Green of Dubuque, Iowa, for so soon as their gift of surgical instruments arrives at Fen Cho Fu Hospital, Dr Atwood will no longer have to amputate limbs with a saw made of a piece of band iron The appeal through the JOURNAL and the response by the doctors sends the instruments Very respectfully,

MARY A ATWOOD

PUBLIC HEALTH

Yellow Fever in the South —In special dispatches in the *Chicago Daily Tribune*, September 26, four undoubted cases of yellow fever to date, with two deaths and one recovery, were reported from Jackson, Miss seven cases and one death from New Orleans, and ten cases from Oxford, Miss There are no cases in Alabama and the quarantine is entirely in the hands of the State authorities Refugees fleeing from Jackson are not permitted to stop within the State of Alabama

Health in Michigan —Reports to the State Board of Health for August give diarrhea, rheumatism, neuralgia, bronchitis, and cholera morbus as the five most prevalent diseases for the month Compared with the preceding month, dysentery, cholera morbus, cholera infantum, typhoid fever, diarrhea and inflammation of kidney increased in area of prevalence

Health in Chicago —The report of the Department of Health for August gives the total number of deaths during the month as 1977, a rate of 1 22 per 1000 as compared with 1 21 per 1000 for the corresponding month in 1897, and 1 40 for August 1896 The principal causes of these deaths were Diarrheal diseases, 261, other acute intestinal diseases, 231, diseases of the nervous system, 234, consumption, 184, heart diseases, 84, pneumonia, 78, cancer, 63, typhoid fever, 45, diphtheria and membranous croup, 41, bronchitis, 37 Those under one year of age numbered 595, those between 1 and 5 years, 251

A Warning Against Antifebrin —An inquest was recently held in London on the body of a young man who died from taking powders containing an indeterminate quantity of antifebrin The powders were taken for the relief of headache Antifebrin, like most analin derivatives, is a drug which should be employed with especial caution It is official under the name of acetanilid, and its potency is sufficiently indicated by the fact that the maximum dose assigned to it is only three grains There have been many cases of poisoning from the injudicious administration of this remedy, the symptoms produced by it being of the anilin type The patient usually complains of giddiness, noises in the ears, throbbing in the temples and a dull, heavy pain in the head The face becomes livid, the lips are blue, and the pupils are contracted This is followed by symptoms of collapse the face and extremities are cyanosed the skin is covered with cold, clammy perspiration, the pulse is feeble and respiration becc and frequent fic antidote, and tration of chasers being chiefly young women of a seamstress class Many people acquire an unfortunate habit of dosing themselves with remedies of unknown composition, and this death under such sad circumstances may be taken as an indication that the custom is not one which can be indulged in with safety —*Brit Med Jour*

Requisites for a Tuberculosis Retreat —The requisites for a sanitarium are as follows 1, a well arranged building with a southern aspect, 2, a dry, pure, well drained subsoil, 3, a pure atmosphere with abundance of sunlight, 4, a garden well protected from the wind, 5, sheltered verandas, galleries or arbors facing the sun, 6, constant supervision by specially trained medical men, and 7, an adequate nursing staff High altitude is an advantage, but is not essential As pointed out by Dr Rufenacht Walters, all these conditions may be found on British soil, and there is no necessity for consumptive patients who can not conveniently leave home to go abroad in search of health Three years' experience at Cromer has convinced Dr Burton Fanning of the practicability and utility of the open air treatment in England He shows how the disadvantages arising from the capriciousness of our climate may to a great extent be obviated by a more elaborate provision of shelters and coverings than is required under brighter skies There is some reason to believe that the climatic influences of foreign stations, though in themselves more favorable, may have disadvantages which make them ultimately less beneficial in the case of British patients than treatment in home sanatoria Many leading German authorities hold that a cure effected in a more genial climate is less assured than one which has been obtained in the native country of the sufferer —Malcolm Morris, in the *Practitioner*

Practical Sanitation —The Health Commissioner of Chicago has sent the following circular letter to some 3500 or 4500 individual producers of milk for the Chicago market, throughout an area extending more than 120 miles from the city—the farthest point being Logansport, Ind , 123 miles distant

DEPARTMENT OF HEALTH CITY OF CHICAGO

ARTHUR R REYNOLDS, M D , COMMISSIONER OF HEALTH
SEPTEMBER, 1898

To the Producers, Handlers and Shippers of Milk for Chicago

The return to their homes of so many of our soldiers sick with or convalescent from typhoid fever has a special interest for milk producers, as well as for health authorities, at the present time Hundreds, and probably thousands, of these sufferers are scattered throughout the area in which milk is produced and shipped to the Chicago market—on farms and in villages, small towns and other places, which drain directly into the streams that furnish the water supplies of dairies and milch cows

It is highly probable that many of these streams will be or already are polluted by the typhoid fever poison, and it is positively known that the disease may be conveyed in milk received and carried in vessels washed in such polluted water One observer, the eminent sanitarian, Ernest Hart, has investigated 97 outbreaks of typhoid conveyed by milk, which caused upward of 5700 cases and 656 deaths

The quality of the milk supply is of vital importance to Chicago It has greatly improved during the last few years, and the deaths of infants and young children, for whom milk is the staple article of diet, have diminished in direct proportion to this improvement A recent report of the Department shows a saving of 1530 children's lives last year compared with the average number prior to 1894, when the supervision of the milk supply was fully undertaken by the Department of Health

In this supervision it has been the aim of the Commissioner to secure the co operation of milk producers by showing that their interests are best promoted by improving the quality of their supplies Such improvement and its effects have been repeatedly shown to the Chicago public by diagrams, tables and other matter furnished to the newspapers and published in them and in the Department reports One result of this publicity is seen in the great increase in the milk shipments to the city In 1896 the average daily receipts of milk by railroad amounted to 13,275 cans Last year, 16,450 cans were received daily, or 48,034,000 gallons during the year This is an increase of 9,271,000 gallons more in 1897 than in the previous year, or nearly 24 per cent There has, of course, been no such increase in the population of the city, and the conclusion is, therefore, irresistible that mothers having been taught that the milk supply is of better quality, are feeding their children more generally and more liberally with this best of all food for the young

This consideration alone, would warrant the Commissioner in directing the attention of milk producers to the threatened danger of typhoid, and in asking their co operation and assistance in preventing or restricting the evil as much as possible

No producer can afford to have his milk infected with the typhoid poison The methods of the Department are such as to make it certain that any outbreak of this disease in Chicago, caused by infected milk, will be located in the dairy from which the milk was shipped, and it would then, not only be the bounden duty of the Commissioner to prohibit the receipt and sale of such milk in this city, but the publicity which would surely be given to such prohibition would ruin the business reputation of the unfortunate producer

All concerned in the production, handling and shipment of milk for the Chicago supply are, therefore, earnestly requested for their own interests, as well as for the interests of health and life in Chicago

First, to keep posted as to typhoid fever in the vicinity of their places of business—especially with relation to the sources of their water supplies

Second, to notify the Chicago Health Department immediately on learning of any case of the fever in their respective neighborhoods

On receipt of such information an inspector will be sent direct to the locality to ascertain the exact condition of affairs and the extent of the danger of milk infection, and to advise and assist in proper precautions

No charge will be made for such inspection and assistance, but all the resources of the Department, its laboratory and its skilled experts, are freely offered to those to whom this circular letter is addressed ARTHUR R REYNOLDS, M D ,
Commissioner of Health

This is practical sanitation on a broad scale and the example is one which might very properly and profitably be followed by State boards of health and other sanitary authorities in warning against the probable spread of typhoid fever from the cause indicated and in instructing in known measures of precaution

Sanitary Results Afforded by the Filtration Plant of Lawrence, Mass —According to the *Public Health Journal*, the effect of the changes made in the water supply of Lawrence, in 1893, was very promptly felt in an improved state of the health of the town The work was completed on September 20, of the year named, at a cost of $65,000, and from that date up to the present time it has been in continuous use, and not once has the unfiltered water entered the reservoir or the service pipes of the city water supply It was the intention of the designer that the filter should be operated as an intermittent filter, that is, that the surface should be uncovered or free from water every day for a period of two or three hours, it being his opinion that better results would be obtained by this method of operation than could be obtained by operating it as a continuous filter, that is, one whose surface is never uncovered, except at times of scraping The intermittent method of operating is followed during the summer, but in the winter the surface of the filter is seldom uncovered except at times of scraping During the year 1894, the first entire year of operation, the bacterial efficiency of the filter was 98 46 per cent during 1895 it was 98 22 per cent , and during 1896, it was 99 32 per cent The efficiency of the filter in removing bacteria has always been greater in summer than in winter, the reason of this being that, contrary to the advice of the designer, the filter remains uncovered, and thus unprotected from the severe cold of the winter of the climate In the January following the starting of the filter, the number of typhoid fever cases was nine, or one eighth as many as during the previous January. This fact is more striking when we note that in Lowell during this month there were ninety nine cases, or three times as many as during the previous January In January, 1895, there were ten cases in Lawrence, in January, 1896, six cases, and in January, 1897, two cases A more satisfactory demonstration of the effect of the filter upon the health of the people of Lawrence can be made, however, by stating that in 1887 the deaths from typhoid fever were 11 75 per 10,000 of the population, in 1888, 12, in 1889, 13 75, in 1890, 13 33, in 1891, 11 20, and in 1892, 11 11 per 10,000 During 1894 the filter was built, and hence during a portion of the year filtered water was being used In 1894, however, filtered water was in use during the entire year, and the death rate from typhoid fever was 5 per 10,000, during 1895 it was 3 07, during 1896, 1 86, aud during 1897 1 62 per 10,000 That is to say, the average death rate for the six years previous to the construction of the filter was 12 36 per 10,000, while during the three years and ten months following its construction, it has been 2 95 per 10,000 of population, a reduction of 76 per cent It can be said also, that a number of the deaths reported each year are operatives in the large mills who, in spite of the warning notices, drink the unfiltered and polluted canal water which is piped into these mills In fact, it can be said that Lawrence now has one of the lowest death rates from typhoid fever of any city in the State, and has its greatest number of cases during August, September, and October The cases occurring in these months can not in any way be connected with the filtered water supply Besides giving a water free from disease germs, the filter is giving a cleaner water, one more attractive and palatable, and containing but 50 per cent of the organic matter of the river water

The Use and Abuse of Food Preservatives —Considerable contention has waged round the legality or desirability of employing preservatives in perishable articles of food and the subject naturally comes to the front during hot weather such as that which we have been experiencing for the past three weeks There is little doubt that some means of preserving food are absolutely necessary when the prevailing conditions are such as to turn food in a few hours Otherwise milk, cream, meat, etc, become unfit for consumption, unpalatable and evil tasting To keep the articles somewhat near freezing point is obviously impracticable on any large scale, while sterilization is similarly beyond application This reduces our resources to the simplest of all expedients, the addition of an antiseptic in such quantity as to preserve, at any rate for a time, the articles from objectionable change and yet in minimum quantity so as not to constitute a possible harmful amount We think the use in limited quantities of such mild antiseptics as borax to be justified at a time like the present when otherwise a considerable amount of valuable food substances would be wasted and lost But, as we have urged before, the fact of an article being thus preserved against change should be always notified to the consumer, and we would have limits imposed by the State as to the amount of the preservative to be used, moreover, the nature of the preservative should also be declared In other words, we would establish a system, recognized by the State, by which under certain circumstances the employment of preservatives with restrictions as to their nature and amount could be legalized There has recently been made an important contribution on the subject by Professor Chittenden of Yale University As the result of a series of very interesting experiments this physiologist reports that the results would appear to warrant the statement that in particular boric acid and borax when present in moderate quantities can have little or no deleterious effect upon the more important chemic processes of digestion On the contrary it would appear that the presence of these agents may, in some cases at least, even accelerate the normal digestive processes of the alimentary tract In regard to the effects of borax and boric acid on nutrition the same observer concludes that when borax is given in sufficient quantity to produce any effect its action is similar to that of common salt, i e, it tends to increase proteid decomposition Both borax and boric acid, he states, are without influence upon the putrefactive processes of the intestine apparently because of their rapid absorption from the intestinal tract and quick elimination through the urine —*Lancet August 27*

BOOK NOTICES

Twentieth Century Practice An International Encyclopedia of Modern Medical Science By leading authorities of Europe and America Edited by THOMAS L STEDMAN, M D, New York City In Twenty Volumes Volume xv, "Infectious Diseases" New York William Wood and Company, 1898

This volume continues the articles on infectious diseases The contributors are Prof Dittmar Finkler, M D, of Bonn, who has contributed nearly one half of the volume, 249 pages on influenza, Eduardo Licéaga, on typhus fever, 72 pages, Dr S Kissato Katsagawa, on Asiatic plague, Dr Frank S Billings, on glanders and anthrax, Ismar Boas, on foot and mouth disease, M L Ponfick, on actinomycosis, N J Keirle, on rabies, J McFadden Gaston and J McFadden Gaston, Jr, on pyemia and septicemia These authorities have produced a series of essays truly representative of medicine at the close of the nineteenth century on the subjects treated, and it would be difficult to find authors who could write on the respective topics assigned them with better knowledge of the subject in hand The history of influenza by Finkler is alone worth the price of the volume He has made free use of that storehouse of epidemiology, Thomson's Annals, which very fairly covers the period from 1510 to 1837, especially in Great Britain, but we have here by Finkler an account of the preceding epidemics, the disease commencing, on the authority of Hirsh, in 1173 He has also brought his history down to the year 1894 The studies of Pfeiffer and Beck, Huber, Voget, Van Selow, Danco, Babes, Nastinkov and Max Richter are given in full

Medical Diseases of Infancy and Childhood By DAWSON WILLIAMS, M D, Physician to the East London Hospital for Children In one 12mo volume of 629 pages with 18 illustrations Cloth, $2 50, net Lea Brothers & Co, publishers, Philadelphia and New York

The author has treated the subject from the broad standpoint of general medicine, but describes fully the special modifications and complications incident to infancy and childhood The volume contains 47 chapters, viz Introductory, clinical examination, diseases incidental to birth, food, acute specific infectious diseases (4 chapters), malarial fever, tuberculosis (4 chapters), syphilis, rheumatic fever, chronic rheumatic affections, infective arthritis, chorea, rickets, scurvy, anemia, leukemia, hemophilia, diseases of the thyroid and thymus glands, diseases of the heart, diseases of the mouth, diseases of the upper respiratory passages acute bronchitis bronchial pneumonia and pneumonia, pleurisy, chronic affections of the bronchial tubes, peritonitis, diseases of the liver, acute disorders of the gastro intestinal system, intestinal obstruction, intestinal parasites, hydatid diseases of the genito urinary system, diseases of the nervous system (8 chapters), diseases of the skin (2 chapters)

This is a carefully considered work, and will be extremely useful to students and others in keeping abreast of the literature of the time on this subject

I Raggi di Roentgen e loro pratiche Applicazioni Di ITALO TONTI Milano Manueli Hoepli 1898

II La Cure Razionale dei Tisici e i Sanatorii Del DOTTOR ARNOLDO ZUBIANI Milano Manueli Hopeli 1898

These two little volumes from the Milan publishing house of Ulric Hoepli are in evidence of the demand of the Italian medical profession to be kept in touch with the latest results of scientific investigation The first is a convenient handy manual of actinoscopy that appears to be though brief tolerably full and up to date It is profusely illustrated with skiagraphs that are reproduced in half tone and which are very clear and intelligible

The second volume is a discussion of the treatment of tuberculosis with special reference to the care in sanitariums and by the open air treatment rather discarding the serum therapy methods that have been and are still somewhat in vogue T author makes a strong plea for the establishment of such sanitaria for the benefit of the poor

Both works appear to be useful contributions to these special subjects

Diseases of Women, A Manual of Gynecylogy Designed expecially for the use of Students and General Practitioners By FRANCIS H DAVENPORT, M D, Assistant Professor of Gynecology in the Medical Department of Harvard University, Boston New (3d) revised and enlarged edition In one handsome 12mo volume of 387 pages, with 155 illustrations Cloth, $1 75 net Lea Brothers & Co, Philadelphia and New York

This manual is not intended for specialists, yet specialists will find it interesting All the important topics of gynecology are here discussed, and discussed intelligently It comprises 20 chapters, viz, Introductory, anatomy, methods of examination, diseases of the vulva, diseases of the vagina, dislocations and lacerations of the vagina, displacements of the uterus, anteflexion of the uterus, inversion, inflammatory conditions, laceration, fibral myomata of the uterus, malignant diseases of the uterus, disorders of menstruation, disorders of the ovaries, tumors of the ovaries, diseases of the fallopian tubes, pelvic peritonitis, pelvic cellulitis, pelvic hematocele, diseases of the urinary organs

As a recitation book for students, this work is extremely useful, and the practitioner will not go far wrong if he adds it to his library and is guided by it

A Text Book of Practical Therapeutics, With especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis By HOBART AMORY HARE, M D, Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia With special chapters by Drs G E DE SCHWEINITZ, EDWARD MARTIN and BARTON C HIRST New (seventh) edition In one octavo volume of 770 pages, illustrated Cloth, $3 75, leather, $4 50, net Lea Brothers & Co, Philadelphia and New York

This well known text book now appears annually, each year fresher and with the latest fruits of the medical literature of the period, succinctly classified and inserted in the revision Few men have succeeded better than Dr Hare in, first, ascertaining what is wanted by his colleagues, and, second, in supplying it with intelligence The system of indexing and cross references adopted makes the work very convenient The work is masterly and authoritative

The Essentials of Histology By EDWARD A SCHAFER, F R S, Professor of Physiology in University College, London New (5th) edition Revised and enlarged Octavo, 450 pages, with illustrations Cloth, $2 00 net Lea Brothers & Co, publishers, Philadelphia and New York

This book, as the former one, is divided into 46 lessons, and is intended as a recitation and practice book in the laboratory The present edition contains 50 pages more than the former one, and is enriched by 67 additional engravings Full instructions for the microscopic examination of tissues is given The work is destined to maintain its popularity

Elements of Histology By E KLEIN, M D, F R S, Lecturer on General Anatomy and Physiology in the Medical School of St Bartholomew's Hospital, London, and J S EDKINS, M A, M B, Joint Lecturer on and Demonstrator of Physiology in the Medical School of St Bartholomew's Hospital, London In one 12mo volume of 506 pages, with 296 illustrations Cloth, $2 00, net Lea Brothers & Co, Philadelphia and New York

This is a masterly guide to the science of histology, without which neither anatomy nor physiology can be properly comprehended It is, as the preceding work, a treatise on microscopical technique, but, as its name indicates, is strictly confined to the subject of histology The present issue is a thorough revision in every respect, and contains much additional matter Although the work is very concise, compressed in 488 pages, it contains all the essentials upon the subject of normal histology We commend the work to our readers, feeling sure they will not be disappointed in it

A Clinical Manual of Skin Diseases, with Especial Reference to Diagnosis and Treatment For the use of students and general practitioners By W A HARDAWAY, A M, M D Second edition, revised and enlarged, with 42 engravings and two plates, pp 557 Philadelphia and New York Lea Bros & Co 1898

This book is divided into two parts, of which Part I contains introductory observations on symptomatology, causes of skin diseases, diagnosis, local distribution of skin diseases, treatment and classification, Part II, diseases of the skin proper, inflammations, hemorrhages, hypertrophies, atrophies, new growths, neurosis, diseases of the appendages of the skin, sweat glands, sebaceous glands, hair follicles, nails, parasitic diseases and animal parasitic infections The work is well illustrated, and carefully written As in the past, it will continue to be a favorite We sincerely hope, however, that in the next edition the decimal system of dosage will be used in the prescriptions

Examination of Sources of Public Water Supplies Cloth, 258 pp Maps Cleveland J B Savage Press, 1898

This volume is a "Preliminary Report of an Investigation of Rivers and Deep Ground Waters of Ohio as Sources of Public Water supplies," made by the Ohio State Board of Health during 1897-98 It contains, "Report on Stream Pollution," by Allen Hazel, "Report on Chemic Examination of Waters of the Scioto, Olentangy and Mahoning Rivers," by N W Lord, "Report on Bacteriologic Examination of Waters of the Scioto," etc, by A M Bleile, "Report on Stream Gaugings and Sources of Pollution," by C N Brown, and a "Report on Rock Waters and Flowing Wells of Ohio," by Edward Orton

A Treatise on the Science and Practice of Midwifery By W S PLAYFAIR, M D, LL D, F R C P, Emeritus Professor of Obstetric Medicine in King's College, London Examiner in Midwifery to the Universities of Cambridge and London Seventh American from the Ninth English Edition In one very handsome octavo volume of 700 pages, with 207 engravings and 7 full page plates Cloth, $3 75 net, leather, $4 75 net Philadelphia and New York Lea Brothers & Co, publishers

This edition of Playfair gives evidences of complete revision, and it will doubtless remain, as heretofore, a favorite text book with students and practitioners The chapter on conception and generation has been re written A number of bacteriologic illustrations from Cruikshank have been added

A Guide to the Clinical Examination and Treatment of Sick Children By JOHN THOMPSON M D Extra Physician to the Royal Hospital for Sick Children, London, Lecturer on Diseases of Children, Edinburgh School of Medicine In one crown octavo volume of 350 pages with 52 illustrations Cloth, $1 75 net Lea Brothers & Co, publishers, Philadelphia and New York

The author has laid particular stress in this work upon clinical examination and methods of diagnosis, although the other essential features have not been omitted The book is well written, and contains a fair résumé of the existing knowledge of the subject

Transactions of the Indiana State Medical Society Cloth, 537 pp Indianapolis 1898

This volume comprises the transactions of the forty-ninth annual session of this Society, held in Lafayette, Ind, May 5 and 6, 1898 In addition to the usual data found in "Transactions," the following papers presented before the Society are printed "President's Address," "Myths and Medicine," "Cerebral Centers for Pain," "Sudden Blindness," "Trachoma," "Optic Neuritis, Its Relation to Cerebral Disturbances, Toxicity, etc" "Some Points in the Etiology of Typhoid Fever," "Summary of a Report of 100 Cases of Typhoid," "Biology—Its Relations with Medicine as a Factor in Cosmology," "Symptoms, Diagnosis and Treatment of Appendicitis," "Gonorrheal Septicemia," "The Diagnosis of the Different Diseases of the Liver," "Patent Medicines vs Scientific Medicine," "Spinal Irritation," "Tuberculosis—Prevention and Treatment," "Constipation—Its Causes, Effects and Treatment," "Pneumonia," "Auto intoxication," "Of What Value is Alcohol as a Medicine?" "Inflammation from a Surgical Point of View," "Chloroform and Ether Narcosis," "Sarcoma of the Kidney in Childhood," "Nasopharyngitis—Its Causes and Treatment," "The Causation and Treatment of Hay Asthma," "The Mastoid Bone," "Criminal Abortion," "Monstrosity Triplets," "Teratology—Report of a Case," "Some Common Monstrosities," "Toil On, Keep Climbing," "Pus in the Female Pelvis," "The Radical Cure of Hernia," "Report of First Year's Work of Indiana State Board of Medical Examination and Registration," "Climato therapy in Phthisis," "Oral Lesions of Syphilis in Relation to the Public Health," "What Shall We Do About Tuberculosis?" "Personal Observations in Diphtheria," "Excisions of Tonsils"

Transactions of the State Medical Society of Wisconsin Vol xxxii Cloth, 583 pp Madison Tracy, Gibbs & Co , 1898

The reports, papers, etc , in this volume were presented at the fifty second annual session of the Society, 1898, the papers being grouped under the several headings Materia Medica and Therapeutics , Surgery , Practice of Medicine , Neurology , Gynecology , Obstetrics , Pediatrics , Ophthalmology and Otology , Laryngology , State Medicine and Hygiene , Medico legal There are also obituaries of Drs William Meacher, Francis H Bodenius, Lucius M Squire and George D Wilber The "Constitution and By laws" occupy the latter part of the volume, with lists of members, present, honorary and deceased The style of arrangement, the printing and the excellent paper used make this, the thirty second volume of the "Transactions," a credit to the Society

Transactions of the Ohio State Medical Society Cloth Illustrated Pp 556 Edited by P MAXWELL FOSHAY, M D , Cleveland, Ohio Cleveland J B Savage 1898

This volume has to do with the fifty third annual meeting held at Columbus, Ohio, May 4 and 5, 1898, and in general appearance is uniform with former volumes The full membership lists of the societies auxiliary to the State society, omitted last year, are included in the volume The papers presented at the meeting are arranged under the following heads Addresses, surgery, medicine, neurology, gynecology and obstetrics ophthalmology, otology, laryngology and rhinology, rectal and genito urinary surgery, forensic medicine and physiologic chemistry The volume also includes the Constitution and By laws, obituaries, etc

Philippe Pinel of France Science, Philosophy, Courage, Humanity, all in one person Profound honor and gratitude from an American citizen J M B Easter, April 10, 1898 Rev FRANCIS TIFFANY has prepared a memoir of Pinel, which is prefaced by an introduction by Dr J M BARNARD of Milton, Mass

The life story of the great Pinel who struck the chains from the unfortunate at Salpêtrière, is well shown The frontispiece of this pamphlet is a photograph from the painting by Robert Fleury of Pinel's visit to the Salpêtrière

Transactions of the Medical and Chirurgical Faculty of the State of Maryland Paper, 114 pp Baltimore The Deutsch Company, 1898

This volume has to do with the one hundredth annual session, held at Baltimore, April, 1898, also the semi annual session held at Ocean City, September, 1897 The contents comprise Officers, committees and delegates, minutes, president s address "The Country Doctor' , annual address, 'Epidemic Cerebro spinal Meningitis reports rules for the government of the library , lists of presidents, vice presidents active and honorary members

Transactions of the Medical Association of Georgia Cloth Illustrated Pp 274 Published by the Association Atlanta 1898

This volume has to do with the proceedings of the forty ninth annual session, held at Cumberland Island, April 20, 1898 In addition to the usual matter found in "Transactions," it contains a number of charts, explanatory of the papers included in the "Transactions" The papers printed are up to the usual standard of excellence of papers of this Society

SOCIETY NEWS

Cincinnati Academy of Medicine —At the opening meeting, September 19, Dr Johnston exhibited a baby but a few weeks old afflicted with spina bifida and double clubfoot The child had had an imperforate anus, which had been operated upon when the infant was about twelve hours old No muscular tissue was found during the operation The dissections were made entirely through cellular tissue, and the edges of the lower bowel, found opposite the sacral promontory, brought down and stitched to the skin The result has been good, but undoubtedly the child will suffer from the loss of muscular tissue around the new rectum The spina bifida occupies the lower dorsal region and does not contain the cord The regular paper of the evening was read by Dr J A Thompson, on "Nasal Headaches with Illustrative Cases " The causes reported with cases included hypertrophic rhinitis, atrophic rhinitis, either of the above complicated with nasal spur providing the spur presses upon the turbinated bone, deviated septum exerting the same pressure, syphilis including gumma, deep ulcer, and necrosis of the nasal bones, tuberculosis, tumors including polypi, fibroma and sarcomata, foreign bodies, rhinoliths, parasites, perforation of the septum, and granulomatous and purulent inflammations of the accessory cavities of the nose, including the ethmoidal and sphenoidal cells, the frontal sinus and the antrum of Highmore The essayist also stated that very commonly two or more of these affections existed at the same time and that the symptom complained of headache, would not in all probability be relieved unless the nose were rendered free and unobstructed He likewise called attention to the frequency of complicating affections of the trachea, bronchi, larynx, pharynx and nasopharynx He did not wish it to be understood that he thought all headaches, or even a very large proportion of them, were due to pathologic conditions in the nose He did think, however, that headaches accompanied by the symptoms of nasal obstruction, where direct examination showed such obstruction to exist, were in nearly all cases relieved by removing the pathologic conditions existing in the nose Discussed by Drs S E Allen, Vale, Tangeman, and the essayist

Wayne County Medical Society —At the regular meeting of this society, Detroit Mich , September 22, Dr W E Scriber read a paper on "Ten Typical Cases of Typhoid Fever Treated Successfully Without Medicine " The Doctor said he did not feel that he was offering anything new, as he believed the trend of the profession is toward little or no medicine in the treatment of this disease He stated that he had tried the various remedies for typhoid fever in a series of 300 cases with little or no beneficial effect, and in many cases the opposite of what he desired Turpentin and quinin he had entirely discarded as not only worthless but harmful He now confines himself to the use of but four remedies in complicated cases They are cold heat, water and diet. For the moral effect, and to satisfy the friends of the patient a little colored water or powdered chalk is used Diarrhea he said, may be controlled and in most cases arrested by keeping the patient on a small restricted diet, or entire fasting for a few hours [illegible] whey may be given if any food is required During [illegible] cracked ice is beneficial, as it allays vomiting and replenishes the secretions of the body Hemorrhage is met in the same way He said that patients fed on milk had not done well in his hands, as they are more liable to hemorrhage, diarrhea, vomiting and other unpleasant symptoms Constipation, he has found, could be relieved by giving plenty of cold water, if necessary, enemas of pure water The temperature he controls by means of ice compresses applied to the abdomen and back of the neck, the amount of ice used being directly in proportion to the height of fever The Doctor illustrated the success of his treatment by enumerating and giving the histories of ten cases of typhoid fever treated by the method laid down In all cases recovery and convalescence were prompt and rapid

Southern Surgical and Gynecological Association —The approaching meeting of this Association will be held in Memphis, Tenn , November 8, 9 and 10 Papers have been promised by many of the leading surgeons and gynecologists of the country, especially of the South Members of the medical profession are earnestly invited to attend William E B Davis, M D , Secretary

NECROLOGY

CHARLES D SHIRMER, M D , College of Physicians and Surgeons, New York, 1889, died September 15 He was a New York City practitioner

JOHN D KNIEF, M D , Bellevue Hospital Medical College, New York, 1887, died at Liberty, N Y , September 8 His home was in New York City

JOSEPH KUFNER, M D , Bellevue Hospital Medical College, New York, 1882, aged 60 years, died in New York City September 14 He was born in Germany and studied at Vienna and Munich before his arrival in America, thirty five years ago

PHILIP ARTHUR MALLESON, M D , College of Physicians and Surgeons, New York, died at his home in New York City September 19 He was born Dec 25, 1859, at Glens Falls, N Y , and at the time of his death was president of the Harlem Medical Association Besides being a member of many organizations he was well known for his well directed charities

GEORGE TROWBRIDGE, M D , died at his home in New York City, September 10 He was a son of Amos H Trowbridge, president of the Second National Bank, who died in 1881 possessed of considerable wealth Dr Trowbridge was graduated from Yale in 1878, and three years later received his diploma from the College of Physicians and Surgeons, New York, but retired from practice fully ten years ago

ABRAHAM M OWEN, M D , Bellevue Medical Hospital College, New York, 1870, of Evansville Ind , died September 19 He was born in Madisonville, Ky , and early became a member of the AMERICAN MEDICAL ASSOCIATION As one of the organizers of the Pan American Medical Congress and an active promoter of the Mississippi Valley Medical Society he will be recalled by many friends He was a man of great energy, uncommon industry and a most genial companion

T S BELL, M D , Wapell, Iowa, September 16, aged 70 years ——R H Bush, M D , Huntsville, Texas, September 13 ——F Caspar, M D , Warren, Ohio, September 19, aged 82 years ——Harry Chase, M D , Ferron, Utah, September 15, aged 28 years ——Noah T Clarke, M D , Canandaigua, N Y , September 16, aged 81 years ——Henry O Claus, M D , New York City, September 19, aged 72 years ——A M Cooper, M D , Point Pleasant, Pa , September 15, aged 68 years ——Louis T Gruel, M D , Philadelphia, September 19, aged 28 years ——G. W Holcomb, M D , Clinton, Mo ——J S McCain, M D , Lexington, Miss , September 8, aged 70 years ——Albert F Schafer, M D , South Bend, Ind , September 17, aged 35 years ——C I Walker, M D , Powers, Mich , September 11, aged 35 years ——F D Wheelwright, M D , Washington, D C , September 12, aged 81 years

MISCELLANY

New Publication —A new quarterly, *The Psychiater*, $2 a year, has been launched at Hospital, Ill , to contain reports of the scientific work at the Illinois Eastern Hospital for the Insane

Melancholia in Lepers of Iceland —Dr Ashmead has received the following from Dr Jonassen, dated at Reykjavik, Sept 3, 1898 I thank you kindly for the reprint about "The Leprosy Question " As to the melancholia in a leper, I shall remark that about all lepers (when the malady is advanced) are under depression of mind, and I am sure that several cases of melancholia in lepers exist in Iceland

Phlebitis of the Leg in Pneumonia —Da Costa (*Phila Med Jour* , September 10) reports two cases of this rare complication The treatment is the same as for this condition in typhoid fever, rest in bed and elevation of the limb, fomentations to reduce the pain and swelling, laxatives to prevent engorgement of the venous system, and close attention to the heart The patient should be carefully guarded from getting up too soon, and allowed to walk only short distances at first

Historic Research in Maryland —The "Medical Annals of Baltimore," which were edited by the late Dr John R Quinan in 1884, are to be revised by Dr Eugene F Cordell, who has been appointed by the medical and chirurgical faculty to bring the work up to date and issue it as a centennial volume of the faculty in 1900 This is a matter in which all the medical sons of Baltimore, in all parts of the country, can take interest, and many can give their help

More High Balloon Flights —European scientific papers publish interesting accounts of the fifth series of international balloon ascents made in June last Balloons, some manned and some unmanned, ascended simultaneously from various parts of Europe, extending from Paris to St Petersburg, and as far south as Rome An unmanned balloon which started from Paris and dropped in Westphalia, reached a height of about ten miles and recorded a minimum temperature of 83 degrees below zero A balloon carrying Dr Berson, from Berlin, attained an elevation of about 18,000 feet, more than 2000 feet higher than the summit of Mont Blanc The lowest temperature that he experienced was between 10 and 11 degrees below zero

Heroism of an Army Surgeon in India —The following case of an army surgeon's heroism has attracted attention In a recent action on the Indian frontier an officer was wounded in the shoulder by a bullet, and was bleeding to death, the main artery being cut Surgeon Lieutenant Hugo came to his aid The fire was too hot to admit lights to be used to examine the wound, and there was no cover, nevertheless Lieutenant Hugo struck a match and examined the wound The match went out, the fire which had been drawn kicked up the dust all around Having no ligature, he remained three hours holding the vessel under fire the whole time, then picked up the officer, still holding the artery with his thumb and finger, and carried him to a place of safety

Roborant Properties of Spinach —Prominent specialists claim that spinach is the most precious of vegetables, on account of its medicinal and strengthening properties The emollient and laxative virtues of spinach, owing probably to the salts of potash it contains, have been long known It is excellent for the liver and as a consequence freshens the complexion Some vegetables contain a relatively large dose of iron According to Boussingault, the proportion is 0 00074 of iron in 100 parts of French beans, 0 0083 in 100 parts of lentils, and spinach very much more The chemist, Bunge, has proved that spinach and yolk of egg are proportionately richer in digestible iron than all the most renowned ferruginous remedies Its great value and growing importance is shown in the fact that spinach is already an active ingredient in several new and very salable tonics —*Public Health Journal*

Thyroid in Bleeding Fibroids —In the *Medical News* for September 17, Moseley reports the results in five cases and draws the following conclusions 1 That while some patients can take comparatively large doses of thyroid with impunity, others are injuriously affected by small amounts One should therefore begin with minimum doses, i e , three grains daily, increasing the amount slowly, watching its effect on the kidneys and heart 2 Thyroid has a marked influence in bleeding fibroids, in checking excessive loss of blood, and in some cases is followed by a diminution in the size of the growth 3 In appropriate doses, improvement to the general health results probably due to the cessation of excessive loss of blood

Intravenous Saline Injections —Boise (*Med News*, September 10) advocates the intravenous route in postoperative saline injections, as, 1, with proper technic, there is no more danger than by any other route, 2, it supplies fluid to the system most quickly and most certainly, 3, it brings heat directly to the cardiac and arterial ganglia, 4, by this method the stimulating effect of the saline solution on the heart muscle is more immediate and more pronounced He believes the solution should be as hot as can safely be borne, i e , 115 to 118 degrees, and whether the post operative condition of the organs be one of depression or excitation, the heat thus supplied will be beneficial In acute anemia, raising the temperature of the fluid circulating throughout the system will aid in re establishing physiologic conditions

What Did the Rector Mean?—For the sake of the rector, who is young and artless, let his name be unknown But the story is true and it occurred last week, and each woman is busy with its narration There is an organization in the church, what its uses are only the members know, but it is called "The Little Mothers of the Church " Now, this rector was giving out a notice about it the other Sunday, and how a woman could join it, etc And then he made this announcement, which created a flutter and a gasp "Any lady wishing to become a Little Mother can do so by calling on the rector any Friday in his study attached to the church " And a murmuring wave, like a sudden wind in the forest, went over that congregation —*San Francisco News Letter*, *Pacific Med Journal*, September

Trauma as a Cause of Appendicitis —In a paper on this subject (*Medical Record*, September 10), Small concludes 1 That general prevalence of catarrhal conditions of the bowels, perhaps as an accompaniment or result of the grippe, is responsible for a large part of the general increase in prevalence of appendicitis 2 That accidental injuries, strains, and work demanding strong contraction of the abdominal muscles may be held accountable for the greater prevalence of the disease in males 3 That such injuries and strains act by forcing material, loaded with the bacteria which produce appendicitis, from the cecum into the vermiform appendix 4 That in consequence of the irritation of such material, or from some other cause, these germs here find a favorable soil for their multiplication and development 5 That in common with other germ diseases a time of incubation must elapse (for the multiplication of these germs) before symptoms sufficiently marked to prove characteristic of appendicitis can appear 6 That the disease is of growing medico legal importance, as many cases are of traumatic origin, and may therefore give rise to proper suits for damage or valid claims against accident insurance companies

Service of Writs Upon the Insane —In the chancery practice in England, process mst be served on an infant before a guardian *ad litem* can be appointed and this is said to be the general practice in suits against an idiot or lunatic who has been found to be of unsound mind by inquisition Substituted service upon the keeper of an asylum where a lunatic is confined has there been allowed, in equity, when service would be injurious to him In some of the States, service upon a committee or upon a guardian has been held sufficient But as the statutes of Massachusetts concerning the service of writs and subpenas contain no special provisions for service upon infants, or persons under guardianship or of unsound mind, the practice in that State seems to have been to require the same service upon them as upon other defendants And the supreme judicial court of that State says, in the case of Taylor vs Lovering, that it thinks this is the proper practice, because, although service on an infant or a person of unsound mind sometimes would seem to be useless, it often would be difficult to determine whether in fact it would be so or not

Injured Employe Assumes Risk —By retaining a portion of the monthly wages of each employe for medical services, the court of civil appeals of Texas holds in the recent case of the Southern Pacific Company vs Mauldin, the company obligated itself to furnish such services as were practicable and reasonable to each of its employes when sick or injured But this duty, the court says, as it understands the evidence here, was to be discharged, when practicable, by treatment of the patients in the hospital at a certain point, the patients being taken there gratuitously by the company And this being the case, the court considers it immaterial whether a patient could be properly and successfully treated at another place When the company furnished there such treatment as the emergency demanded and was necessary to prepare the patient for transportation to the hospital, by the servants of the company calling to the patient a physician of good reputation residing in the vicinity of the accident, and the patient declined the offer of the company to take him to the hospital, declaring that he was satisfied with the treatment of the local physician, and preferred to remain with him, the court holds that the duty of the company as to the patient was ended, and that he could not recover damages for the mistake of the surgeon to whose care he was temporarily committed, in treating him for sprain ing and laceration of the muscles, instead of for a dislocated hip

Cannot Disclose Incidental Discoveries —In the personal injury case of Nelson vs the Village of Oneida, the plaintiff claimed to have suffered an umbilical hernia, a prolapsus of the uterus, and several bruises, by a fall due to a defective sidewalk But the defendant attempted to show by her physician that she had an umbilical hernia before the accident Its counsel insisted that if the physician discovered the umbilical hernia while attending his patient at childbirth, but did not treat her for it, and the knowledge was not necessary for his guidance in assisting in the delivery of a child, he could disclose it while the court took the position that the very nature of his employment compelled the disclosure to him by the patient and, therefore, it was privileged under the statute The latter provides "A person, duly authorized to practice physic or surgery, shall not be allowed to disclose any information which he acquired in attending a patient, in a professional capacity, and which was necessary to enable him to act in that capacity " Appeal was taken to the court of appeals of New York, and this tribunal now affirms the judgment of the court below, holding that the evidence offered was clearly within the protection of the statute, because the witness acquired the information which the defendant desired to elicit from him while attending the patient in a professional capacity, and the discovery of an umbilical hernia was a necessary incident of the investigations made to enable him to act in that capacity

Insurance in its Earliest Stages —We can discover no earlier recorded instance of insurance against accidents than that mentioned by Livy During the Second Punic War the contractors for delivering corn into Spain stipulated that the Gov ernment should indemify them against loss by tempest. Cicero, too, after his victory in Cilicia, seems to have obtained security against the loss of his booty during its transit to Rome. These instances, however, have not been regarded as genuine cases of insurance by those authorities who assert that only after the revival of commerce in the tenth century did it come into vogue. If this be correct, the first mention of insurance is the establishment in 1310, at Bruges, at the request of the inhabitants, of a chamber of assurance. "The contract of reciprocal insurance was known likewise in Portugal in the fourteenth century, and in the fifteenth, Sept. 10, 1436, King Edward of Portugal writes from Lisbon that the merchant vessels of the English, which had been chartered for the Tangiers expedition, had not been insured owing to the fault of their proprieters, while those of the Portuguese, even of the Royal Navy, were." It is probable, however, that insurance came into use in Italv early in the twelfth century, and was, by the Lombards, transplanted into those countries with which they had commercial dealings. To them, therefore, the invention of insurance, as it is now understood, is generally conceded.—*Pearson's Weekly.*

Statistics of Cutaneous Diseases.—In his presidential address before the recent meeting of the American Dermatological Association (*Jour. of Cut. and Gen. Urin. Dis.*, September), Hyde made a comparison as to cutaneous disorders in this country and abroad, taking as a basis, 500 cases occurring in men, women and children, in the out patient service of public clinics in each of the cities of Paris, New York, Boston and Chicago. The figures show a decidedly greater variation in the character of the tabulated disorders in America. In the 500 cases in New York, 58 different dermatoses were noted; in the 500 in Boston, 54; in Chicago, 48; in Paris, 46. Again, the list of rare disorders tabulated in Paris were less than in each group of 500 cases in the American cities. Of the 500 Paris cases, 114 represented the victims of syphilis, as compared with 46 in the Boston group, 33 in the New York and 170 in Chicago. Chicago patients gave more than four times as many male as females. In New York the sexes were equally divided, and in Paris more than half the patients were women. Paris reported nearly double the number of American cases of alopecia areata; Chicago the larger number of cases of lupus erythematosus and of lichen planus, with a case of pityriasis rubra pilaris. New York excelled in lupus vulgaris, sebaceous gland affections, seborrhoic eczema, and psoriasis, while more than half of the forty five cases of pruritus were from Chicago. Dr. Hyde believes that "the results of this comparison, even though made on a limited scale, are sufficient to indicate clearly that the clinical field for the study of dermatology in our country is in a high degree satisfactory, and that with increased laboratory facilities the day is not distant when American students will no longer deem it requisite to pursue a course of foreign study in order to perfect themselves in this branch of medicine."

Growth of Ether Anesthetization in England.—Dr. Frederick W. Hewitt, anesthetist to the London Hospital, reports that chloroform was administered in only 677 cases out of the 6,657 cases anesthetized at that institution during 1897. He further says that several years ago this anesthetic was in routine use; but experience has tended to somewhat shake our confidence in it for general employment. When such a report is made, coming as it does from a large and important hospital, it seems very significant. A better example of medical conservatism can not, perhaps, be found than in the use of the two great anesthetics. For a long time it has been very evident that ether is the generally safer anesthetic; but convenience, the fact that chloroform is pleasanter to administer and less disagreeable in its after effects, and, above all, habit, seemed for years to blind the eyes of our English brethren to that most important consideration, the greater danger to human life. What though the danger be but slightly greater, is any man justified in risking his patient's life? The gradual change in favor of ether is coming, not alone in England, but on the continent of Europe. In several of the large German and French clinics ether is the usual anesthetic, and in spite of the shockingly large chloroform fatalities annually reported in the *British Medical Journal* and in the London *Lancet*, we believe that there is greater need of this change on the continent; for what American who has visited the clinics of Europe has not been amazed and disgusted at the careless administration of chloroform in some of the most celebrated clinics? It should in justice be stated that there has been in certain parts of our country almost as much prejudice against chloroform as has been shown in favor of it on the other side of the Atlantic. At present it is generally recognized, however, even in Boston, that although ether is the anesthetic to be chosen in the vast majority of cases, chloroform is very definitely indicated under certain conditions and this, we believe, is the proper solution of the matter.—*Philadelphia Medical Journal.*

Scope of Personal Injury Liability.—When a person is injured through the negligence of another, he must use due diligence to obtain proper medical treatment, though the supreme judicial court of Massachusetts says that his duty in this respect is fully discharged by using ordinary care in procuring a reputable physician, and the same care in following his instructions. That the treatment which he obtains is improper will not release the defendant from liability for negligently causing his injury. Nor will the fact that certain medical witnesses testify that blood poisoning is not an ordinary incident, if wounds are dressed in a specified manner, authorize an instruction that the defendant will not be liable for blood poisoning, unless it is the ordinary effect of such a wound, especially so long as there is no evidence that blood poisoning is not a natural result of such an injury as that which the plaintiff received, and no evidence that the wounds which were inflicted on him were not skillfully and properly treated, and so nothing to call for an instruction to be separately given with reference to disabilities resulting from improper treatment. On the other hand, the court holds correct (McGarrahan vs. the New York, New Haven & Hartford Railroad Company) an instruction that if the plaintiff, in the selection of the physician or surgeon, and in compliance with his directions, was in the exercise of reasonable care, the defendant was still responsible in damages for the results of the injury, although those results were more serious than if he had had better treatment. Evidence that one, who practices as a physician and surgeon, attends a patient and gives him professional assistance, the court further holds, justifies a finding that the services were rendered for a pecuniary recompense, to be paid by the patient. And evidence that a sick person is kept and cared for at a private house, other than his home, the court likewise maintains, justifies a finding that he is there upon expense.

Dangers of the Nasal Douche.—Lichtwitz deprecates the routine prescription of the nasal douche in all cases of hypersecretion of the nasal mucous membrane. Irrigation is called for only when the nasal fossa require clearing of pus and crusts, for instance in idiopathic ozena. This affection is mainly limited to the nasal fossa properly so called, and irrigation is in such a case the most fitting form of procedure. An ordinary syringe or enema syringe with suitable nozzle should be used. In all other nasal affections irrigation is inadequate or useless; it is even dangerous. Repeated flooding of the mucous membrane may give rise to olfactory lesions. Antiseptics are highly injurious and pure water is badly borne; the physiologic solutions of sodium chlorid, sodium bicarbonate or sodium sulph are the only harmless liquids. In numerous cases irrigation has caused the sense of smell to be temporarily or permanently diminished or lost Distressing frontal or occipital headache may result, owing to the liquid passing into the sinuses The injection of irritating liquids may even set up inflammation of these cavities The most skillful and careful irrigation is insufficient in many cases to prevent the resulting headache A very grave complication is the penetration of the liquid into the middle ear, suppurating otitis media occasionally supervening In acute coryza, especially in children, douching should never be practiced In one such case known to the author mastoiditis followed irrigation of the nasal cavities The predisposition to otitis is increased after retronasal operations, in particular after ablation of adenoid vegetations For eight years the author has given up all irrigation after pharyngo tonsillotomy, and during that period has met with no case of post operative complication —*British Medical Journal*

Conductors Can Employ Surgeons in Emergencies—It is a mooted question whether or not a railroad company is responsible in any case for the contracts of an employe, not made in the line of his employment, and he having no express authority to make them, and, if so, under what state of circumstances this liability attaches to it However, the supreme court of Arkansas suggests that the weight of authority seems to sustain the doctrine that, in case of an emergency the employment (of a physician, for instance) by the highest railroad official present is the act of the company, and it will be liable for the value of the services rendered to one, in the employ of the company, injured by the running of its trains It says that it may be that it is the legal as well as the moral duty of the company, when an accident happens to a person in its employ, to do all it can to prevent an injury to its servants from having its worst consequences, just as it is its duty to do all it can to prevent the injury in the first instance when informed that the danger is impending But whatever may be the reason, it is a case in which some one should act, and without delay, and the equities are in the idea that the employer is under a greater obligation to do so than any one else not otherwise bound Yet the liabilities should not be extended beyond the exigencies of the occasion, and the extraordinary rule should be most strictly construed, and applied with the greatest caution, and all conditions upon which it is based should appear in every case when it is applied Upon these considerations, the court affirms a judgment in favor of the physician, in the appealed case of the Arkansas Southern Railway Company vs Loughridge, it being of the opinion that the emergency under which the conductor acted in requesting the physician to go and see the injured man (meaning to attend him), a brakeman, was such as to make the act binding upon the company, the charge being reaasonble

Right to Compensation for Attending Paupers—The supreme court of Iowa holds, in the recent case of Lacy vs Kossuth County, that by appointment under the provision of law that each local board of health shall appoint a competent physician who shall be the health officer within its jurisdiction, the appointee becomes simply an officer to assist in the administration of the law and the enforcement of the regulations of the board, and, as such, he is not required to treat the sick in his professional capacity, and he can not be compelled to render assistance to infected persons, simply because he was appointed physician to the board But whatever the board deems best for the safety of the inhabitants, in the matter of assistance and supplies, they may order under the provisions of the Acts of XXII General Assembly and compensation for such service is to be had under the provisions of that enactment Therefore, as the plaintiff in this case was called to the service by the board of health to treat an infected person, the court holds that he was entitled to his compensation although the county may have had a contract with a physician by which such physician undertook to treat all the paupers of the county The fact that the patient in question was a pauper, it adds, was material to the inquiry as to who should pay the bill, and not as to who should perform the service It also holds that there was properly attached to the plaintiff's statement of account a certificate of the board of health that he was employed by it, that he performed the services stated, and that the bill was correct, etc , which certificate became a part of the claim and, as such, was admissible in evidence, though a portion of it referring to the responsibility of the father and to the contract price of the work was rejected On the other hand, the court holds that in an action brought to recover for medical services rendered a poor person, under employment by the township trustees, if the board of supervisors had in fact employed a competent and convenient physician to care for the poor, the trustees were not authorized to employ another simply because they believed the county physician was inattentive, negligent, or incompetent, and that the county would not be liable

Old License but Prima Facie Evidence of Right to New One—The provisions of Section 5 of the Indiana law regulating the practice of medicine, approved March 8, 1897, the supreme court of that State says, materially modify the provisions of Section 2, which, taken alone, would make the possession of a license under the old law the only evidence needed to entitle a person to one under this new law It insists that Section 5 authorizes the State Board of Medical Registration and Examination to do something more than merely inspect the old license before they issue the certificate for a new one and that, under its sweeping provisions, the old license is merely prima facie evidence of a right to the new one The Board, in effect, the court holds, in the case of State ex rel Burroughs vs Webster, June, 1898, is given authority to inquire whether the license was rightfully obtained, and even then, if the applicant is an unfit person to practice medicine, by reason of criminal conduct or immoral character or habits, the Board may refuse a certificate Moreover, after the giving of a certificate, provided no license has been issued upon it, the court further suggests, the Board may after notice and hearing, revoke the same, though they can revoke a license once granted, under the new law only upon the finding and judgment of the circuit court Whether the law is a wise one, is declared to be not for the courts, but for the legislature to say, and the legislature having judged that the safety of public health required the guards that are placed around the practice of medicine by this law, the supreme court says that it is unable to see that the act is not a valid exercise of the police power of the State and it maintains that the statute itself is notice that the legislature has set aside the old licenses and given a reasonable time in which to apply for new licenses in their place and, the applicant for a new license having presented himself before the Board, he must be held to have notice of whatever disposition the Board may make of his application Another point decided is, that that while in some respects quasi judicial the action of the Board is not judicial any more than is the action of a county surveyor in fixing a boundary line or of a county superintendent in giving or refusing a teacher s certificate or the action of numberless other officers and boards in making investigations and decisions in matters committed to them Neither is the circumstance that an appeal is allowed from a decision of the Board deemed an indication that its action is judicial

Death From Insect Stings—According to the *Lancet* of August 27, a fatality from this cause has been reported in the case of a laborer who placed in his mouth a gooseberry which proved to contain a wasp The wasp stung him at the root of the tongue, he went into his cottage and medical aid was summoned, but death ensued in five minutes In this instance death most probably supervened on suffocation, due to intense swelling in the throat and was not due to poison itself Vomiting, fainting, delirium and stupor strongly suggest a highly virulent substance of the nature of a toxin The precise nature of the poison of wasps and bees is not known They possess a poison bag and sting, and the fluid secreted is as clear as water, exhibits an acid reaction and, in fact, contains formic acid But this acid can hardly account for the severity of the symptoms sometimes following a sting Fatal results have indeed occurred, which could only be attributed directly to the toxic action of the sting One of the old fashioned remedies, and we believe a good one, is to apply immediately to the part stung the juice of a raw onion The rationale of this remedy is not clear, the sulphur oil in the onion possibly serving as a palliative The sting, at any rate, if it remains in the wound, should be extracted and the puncture dressed with a little weak ammonia, and afterward a little bromid of ammonia may be added, which frequently serves as a sedative Judging from the great number of wasps which have somewhat suddenly appeared in the rural parts of England, during the recent hot weather, this seasonal pest promises to be of no small dimensions The intense irritation caused in some persons by mosquito "bites" may be properly relieved by the application of ipecacuanha, either the "vinum" or the powdered root, made into a paste with either water or vinegar Spirits of camphor will allay the itching of mosquito bites, and aqua ammonia is supposed to be a direct antidote to the poison of the common insect pests

Societies

The following recent meetings are noted

California —Pasadena Medical Association, September 10

Illinois —Society of Internal Medicine, Chicago, September 10

Iowa —Fremont County Medical Society, Randolph, September 14, Medical Society of the Missouri Valley, Council Bluffs, September 14

Maryland —George's Creek Medical Association, Frostburg, September 15

Massachusetts —Worcester District Medical Society, Worcester, September 14

Missouri —St Louis Medical Society of Missouri, September 24

New York —Academy of Medicine, Syracuse, September 20, Alleghany County Medical Society, September 14, Orange County Medical Society Newburgh, September 13

Ohio —Lucas County Medical Society, Toledo, September 16

Pennsylvania —Cecil County Medical Society, Elkton, September 15, Lancaster City and County Medical Society, September 7, Lebanon County Medical Society, Lebanon, September 13, Lycoming County Medical Society, Williamsport, September 9

Tennessee —White County Medical Society, Sparta, September 9

Texas —Briggs Medical Society, Waxahachie, September 13

Vermont —Connecticut River Valley Medical Association, Bellows Falls, September 20

Cincinnati

Dr S P Kramer, newly appointed brigade surgeon with the rank of major, is on duty at Montauk Point

Dr Charles H Castle surgeon First Ohio Cavalry, is still fighting typhoid fever at Fernandina, Fla

Drs H P Diekmeier and E B Palmer, former internes of the Cincinnati Hospital, have returned from a prolonged course of study in Europe

Detroit

Detroit Medical and Library Association —At the regular meeting September 19, Dr G E McKean read a paper on "Tubercular Meningitis" After reviewing the literature on the subject and giving the pathology, diagnosis and treatment, the Doctor recited the complete histories of three cases occurring in his own practice One of these cases, a child of 8 years, recovered and has since been in good health One other case was that of a young lady 25 years old, but the tubercular deposits in the brain, causing the fatal sickness, were secondary

Health Report for Week Ending September 24 —Deaths 99, under 5 years 43 Births, male 30, female 32 Contagious diseases, Diphtheria, last report 5 cases, 6 new cases reported, 5 recoveries, 1 death, 5 remaining, scarlet fever, 2 new cases, 4 recoveries, no death, 4 now sick, 1 case of smallpox reported, 2 now sick

Washington

Health of the District —The report of the Health Officer for the week ended September 17, shows the total number of deaths to have been 125, of which 64 were white and 61 colored Among the principal causes of death were Nervous diseases, 25, genito urinary, 10, consumption, 15, circulatory, 11, there were 3 deaths from diphtheria, one from whooping cough and 3 from typhoid fever there were 68 cases of diphtheria and 45 cases of scarlet fever under treatment at the close of the week In the annual report of the Health Officer recently submitted to the Commissioners, it is recommended that the salary be increased from $3,000 to $4,000 per annum for the Health Officer, and that a Deputy Health Officer, with a salary commensurate with his duties, be appointed to act as Health Officer when necessity requires Attention is also called to the fact that the clerical force of the department is inadequate, and an increase is recommended It also recommends the appointing of a competent janitor in charge of the smallpox hospital and steam disinfecting plant An increase is recommended for the pound and disinfecting departments, to enable the latter to disinfect premises infected from disease It also recommends an appropriation for abating nuisances and vaccinating the indigent portion of the community The report closes with the important recommendation that the Health Department be provided with an up to date bacteriologic laboratory, and that ashes and sweepings be removed from private premises at public expense

Military Hospital at Ft Monroe —Lieut Col Woodhull surgeon in charge, has reported to Gen Sternberg, that a large military hospital building at Ft Monroe, Va, will be ready for occupation within a few days The hospital will contain 1000 beds, and is specially intended for sick soldiers returning from Porto Rico Surgeon General Sternberg is arranging for other winter hospitals to be located at points to be designated by a Medical Commission

The President Inspects Ft Myer Hospital —President McKinley recently made an inspection tour of the military hospital at Ft Meyer, Va He devoted several hours to the work, inspecting the wards containing about 400 sick, and then directed his attention to the culinary and commissary departments, personally inspecting the kitchen and food furnished the sick He expressed himself as being perfectly satisfied with the management of the hospital

Returned to Duty —Drs J F Moran, James D Morgan, I Bermann and G C Morris, have returned to the city after an extended vacation

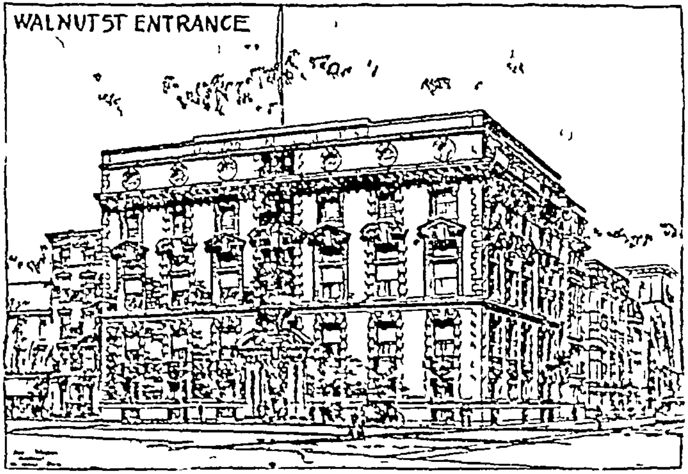
Disease Spread by Flies —The scientific commission consisting of Majors Lee, Vaughn and Shakespeare, of the Medical *Department of the Army*, which has just concluded an inspection of several of the southern camps, has made a report to the War Department to the effect that flies were responsible to a large degree, for the prevalence of typhoid fever among the soldiers The commission visited the camps at Jacksonville, Huntsville, Fernandina and Chickamauga, finding many cases of typhoid fever in each After investigation the commission concluded that the fever had been brought in by the soldiers from their State Camps The members are unanimous in the opinion that the flies, found by the millions in all the camps, were responsible for the prevalence of typhoid fever, and they present many facts to support this conclusion In their report it is stated that the flies fed off the fecal matter from the hospitals, and then at meal time shared the hard tack and bacon of the soldiers While feeding off the fecal matter of the hospital, the fly picked up on his hairy little feet infinitesimal particles containing the germs of typhoid fever and deposited them on the soldier's hard tack and bacon

Deaths from Leaky Gas Fixtures —Quite frequently the coroner is called upon to investigate deaths resulting from gas asphyxiation, and in many instances supposed cases of suicide are found to have met their death from gas escaping from defective brackets It would seem that the proper authorities in Washington should hold somebody responsible for these preventable deaths, just as is done in the case of railroad accidents, explosions and other neglects In the absence of such steps, it might be wise to require owners of property or tenants to keep gas fixtures, keys and pipes in perfect repair, thus limiting or lessening the deaths above cited

Philadelphia

School House Infected —A few years ago several cases of diphtheria developed in the I P Morris School and nearly fifty persons contracted the disease This disease has broken out in this building in previous years and a committee was appointed to investigate It was first thought the disease was conveyed by drinking water, but this was subsequently proven not to be the case The building has been arranged in its present condition by simply bringing two dwelling houses into one, and accommodates 300 children Last year forty cases developed, nine of whom died, and an equal number have died during this latter epidemic The teachers, at the first symptoms of the disease, dismiss the affected children in order that they may return home Many parents very justly refuse to allow their children to attend this school, preferring to contend against the compulsory education law rather than risk exposing them to the contagion The school will doubtless be closed Fourteen cases have also been reported in two other districts of the city

Jefferson Medical College —Students of this institution next year will doubtless be at home in one of the handsomest medical colleges in the country The site is immediately south of the old college building, fronting Tenth and Walnut Streets, being 118 feet long by 110 feet deep, and the new building will be six stories high, of Italian Renaissance style and fire proof



BUILDING OF JEFFERSON MEDICAL COLLEGE

Army Investigating Committee.—Dr W W Keen professor of surgery at the Jefferson Medical College, returned from Europe last week During Dr Keen's absence he was appointed by President McKinley a member of the Army Investigating Committee, but he has, after consideration, declined to accept

Better Education for Physicians —Since the passage of the law in Pennsylvania demanding a strict examination of applicants for those who desire to practice medicine in this State much good has been done toward elevating the profession and suppression of quackery, but there is a determination to raise the standard still higher According to the act of May 18, 1893, governing the subject, one of the specifications was that a common school education should be possessed by the applicants including orthography, reading, writing, arithmetic, English grammar, geography, history of the United States, physiology and hygiene The subjects of physiology and hygiene are to be assigned to the medical examining boards while the other branches will be transferred to and conducted by a committee consisting of persons connected with the public school system It is stated that two preliminary examinations will be annually held in Philadelphia, one during the month of October after the medical schools have opened, and the other preceding the final examination in June Preliminary examinations will also be held in the Western part of the State on the same dates The committee to take charge in Philadelphia will consist of the State superintendent of public instruction, the assistant superintendents of the schools of Philadelphia and several professors in this department Answers to all questions are to be marked and kept on file in Harrisburg It is stated that the Medical Council will accept as satisfactory evidence of a common school education permanent certificates issued by the school department of Pennsylvania, diplomas from colleges, normal schools and other institutions approved by the Council

Huidekoper Resigns —Dr Rush Shippen Huidekoper, formerly of Philadelphia and until recently medical director at Chickamauga Camp, has been detached from his commission in Porto Rico Dr Huidekoper was graduated from the Department of Medicine, University of Pennsylvania in 1877, and practiced medicine in this city, having an office at 111 South Twentieth Street He has been foremost in establishing the Veterinary Department in the University, and lectured in that institution until 1888, when he resigned and went to New York, where he became lecturer in the New York Veterinary School He was for eleven years connected with the National Guard of Pennsylvania as surgeon on the brigade and division staff commanded by General Snowden, and was with the troops during the Homestead riot At present he is in Porto Rico

Dr John Ashhurst, Jr, professor of surgery at the University of Pennsylvania, while on his vacation at Overbrook, near Philadelphia, was attacked with a mild stroke of apoplexy It was hoped at the time that he would sufficiently recover to resume his duties at the coming session, but it is now found that this will not be possible The thousands of students who have gone out from the University will regret to hear of this unfortunate occurrence, for the feeling toward the Professor by all is one of profound respect Besides his position in the University, he is surgeon to the University Hospital, Pennsylvania Hospital and Episcopal Hospital, and is now president of the College of Physicians of Philadelphia At the approaching meeting of the Trustees of the University it is supposed that Dr Ashhurst will be relieved from duty for a sufficient period to recuperate and resume his chair at the University next year

Mortality Statistics —For the week ending September 24 there have been reported to the Board of Health a total of [illegible] deaths This shows an increase of 14 over last week and 21 over the corresponding week of last year Of the total number of deaths, 120 occurred in children under 5 years of age The principal causes of death were Nephritis, 19 cancer, 1[illegible] cholera infantum 10 tuberculosis 40, diabetes 2 heart disease, 33, malarial fever, 1 inanition 8 appendicitis [illegible] marasmus 31, old age 11 suicide 4, sunstroke [illegible] uremia 4

Infectious Diseases —This w[illegible] cases 15 deaths, scarlet fever 5 cases [illegible] 15 deaths Last week Diphtheri[illegible] fever, 15 cases 1 death typh[illegible]

Most of these cases of typhoid fever occurred among the soldiers who had been brought to the city

Jewish Hospital —The thirty third annual report of the Jewish Hospital has just been issued, and shows that during the year ending April 30 there were treated in the wards 736 patients and in the dispensary 11,754 The Hospital Association of which this Hospital is a part also includes the Mathilda Adler Loeb Dispensary, the Home for Aged and Infirm Israelites and the Lucien Moss Home for Incurables The report states that by the death of Lucien Moss a legacy has been left amounting to $200,000 for the erection and maintenance of a home for incurables, to be known as the "Lucien Moss Home for Incurables of the Jewish Faith "

For Federal Quarantine —Owing to the cases of yellow fever recently reported in New Orleans and elsewhere, one of the leading papers here makes a strong plea for the establishment of Federal quarantine, stating that the injurious effects, not only to life but also to commerce, is a sufficient reason why the National Government should have absolute control over all quarantine matters The article then recites the experience of quarantine by local boards of health, shotgun quarantine, etc , and suggests the old idea that the whole matter be transferred to the Marine Hospital Service, which could then manage epidemics of this disease without interference by State or county officials

Condition of the Soldiers in Philadelphia Hospitals —At the present time there are about one thousand soldiers being treated in the different hospitals of this city Three deaths have occurred at the Pennsylvania Hospital within the past few days, and of the 110 soldiers still present in that institution several are yet in a critical condition This Hospital has cared for upward of two hundred soldier patients and these deaths are the first yet reported

Drs Boardman Reed and **Albert Roussel** have both returned from Europe

Dr Laurence Turnbull, who has been for several months at his summer home in Florida, has returned much improved in health

Dr S Weir Mitchell, who is now in Bar Harbor, and Dr Edward P Davis, now at Marion, Mass , are both expected home about October 1

Drs Joseph Price, **W S Stewart** and **John B Deaver**, have been in attendance at the meeting of the American Association of Obstetricians and Gynecologists recently held in Pittsburg

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Rodman, W L , from Louisville Ky to Medico-Chirurgical College, Philadelphia Pa
Ross, T D from Stockton to Santa Rosa, Cal
Sites J McKee, from Upper Tract to 309 W Burke St,, Martinsburg O
Sale E P , from Masonic Temple to Southern Express bldg, Memphis, Tenn
Truax, Greene & Co , Chas , on or before November 1 will remove to their new building, 42 44 and 46 Wabash Ave Chicago Ill
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THE PUBLIC SERVICE

Movements of Army Medical Officers —To duty at Camp Wikoff, Montauk Point, L I Major John M G Woodbury, chief surgeon of volunteers

From Camp Wikoff, Montauk Point, L I , to Santiago, Cuba Acting Asst Surgeon E Nunez To Ponce Porto Rico, the following acting asst surgeons J F Hadley, H B Mohr, Charles D Camp, H P Jones, F M Barney, Robert Boyd, S W Perry, Stephen M Gonzales Charles A Hamilton Charles J Kenworthy S H Wadhams, E F McClendon, Charles E McDonald, Wm M Carson, William C LeCompte John J Gilhuley, Elmer S Tenney, L C Shattuck and W W O Cutliffe To duty with troops at Jacksonville, Fla Major Royce D Fry, brigade surgeon, and Acting Asst Surgeon Ed C Poey To duty with troops at Amiston Ala Major Samuel W Kelly brigade surgeon To New Orleans, La Acting Asst Surgeon Geo B Lawrason To Mobile Ala Acting Asst Surgeon George H Fonde To Jefferson Bks , Mo Acting Asst Surgeon Llewellyn E Williamson To Ft McHenry, Md Major L W Crampton, Surgeon U S A

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Vol XXXI CHICAGO, ILLINOIS, OCTOBER 8, 1898 No 15

ORIGINAL ARTICLES

THE USES OF REMEDIES IN DISEASES OF THE HEART AND BLOOD-VESSELS

Presented to the Section of Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY T LAUDER BRUNTON, M D , D Sc , Edin , LL D , Hon Aberd F R C P , F R S
PHYSICIAN TO ST BARTHOLOMEW'S HOSPITAL
LONDON ENG

It is obvious that the scope of my paper is so large that if I were to deal with it fully I would require to write a text-book, so that I can not do more in the time at my disposal than simply enter upon a few of the most important points I have, therefore, thought it advisable, instead of entering into the details which are usually to be found in ordinary handbooks on the practice of medicine or in special books on cardiac disease, to take up a few points which I regard as the most important and try, if possible, to bring out clearly the general principles of treatment in diseases of the heart and vessels

It is curious to think that the heart which is beating in the bosom of every one began to beat a considerable while before the body had assumed a human shape, and will, with very few exceptions, continue to beat a short time after the individual has forever become unconscious of this world and all its concerns During the whole life of the individual his health, energy and activity, his success in life, his physical force, his mental power and even his moral qualities, all depend to a great extent on the way his heart performs its duty Hardly less important than the action of the heart is the function of the vessels, because, even while the heart is beating regularly and steadily, obstruction to some of the cerebral vessels may transform a man who was far above his fellows in physical strength or intellectual power into a helpless paralytic or demented invalid A study of the means by which the functional activity of the heart and vessels can be maintained or increased is therefore, of the utmost practical importance This has been recognized in every age of medicine, and perhaps there is no movement more characteristic of the physician than that of feeling the pulse of the patient By this simple act the trained finger can discover a great deal regarding the state of both the heart and the vessels and gain much information regarding the indications for treatment Greater perfection in other means of physical diagnosis, and especially in auscultation, have tended to draw attention away from the pulse and direct it rather to the sounds which can be heard in the heart and vessels, so that more thought is now bestowed by many physicians upon actual valvular changes than upon the strength of the cardiac muscle A little consideration will show that this is wrong Many men live with serious organic disease for many years and are hardly conscious of it When I was a medical student, one of my honored teachers had had pericarditis and suffered from great shortness of breath due to adherent pericardium After a lapse of thirty-five years, during which he has continued to do much good work, he seems now to be much stronger and healthier than he was then A similar occurrence takes place when the valves are diseased In his excellent work on diseases of the heart, Sansom says that many who are the subjects of even considerable valvular affections can live a large portion of their lives unconscious that they have any such disease Balfour states that he has seen many cases of aortic incompetency who have suffered from it from thirty-five to forty years, and an old friend of his had suffered from mitral regurgitation for nearly seventy years, yet lived a useful life nearly all that time, and even at the last, his heart was not the first organ to fail A medical man whom I used to see had been rejected for life assurance on account of mitral disease, before the Crimean War, and had been told that he had not two years to live He thought that as his time was short, he might as well see something of the world during it, so he entered the army, served through the Crimean War, saw a great deal of active service afterward, and died only about two or three years ago These instances clearly show that considerable valvular disease may have little effect in shortening life or producing serious symptoms But the case is very different when we come to consider the muscular walls of the heart, for any weakness in them not only enfeebles the circulation at once, but will secondarily produce valvular incompetence The mitral and tricuspid valves are only large enough to close orifices of a certain diameter, and when these orifices become larger, as they do from enfeeblement of the cardiac muscle, the valves are not able to close the auricular and ventricular openings, and regurgitation takes place

Weakness of the heart is not an absolute, but only a relative term, and however strong the heart itself may be, the limit of its power may be reached The ancient Greek who carried the news of the battle of Marathon to Athens must have had a very powerful and healthy heart in order to do so, but even he overstrained it and fell dead at the conclusion of his task The young American who performed a similar feat a few years ago showed himself either stronger or more fortunate than the hero of old, yet he must have felt the unpleasant symptoms of cardiac strain These symptoms are known to almost every one because in ordinary people who are out of training a short run to catch a railway train or steamer more especially if a portmanteau or bag be carried will bring on tightness and oppression across the chest rapid difficult and gasping breathing giddiness and muscular [illegible]ness so that the person may be unable to stand In feeble or elderly men these symptoms may be [illegible]ated with a sense of impending death, and death

Most of these cases of typhoid fever occurred among the soldiers who had been brought to the city

Jewish Hospital —The thirty third annual report of the Jewish Hospital has just been issued, and shows that during the year ending April 30 there were treated in the wards 736 patients and in the dispensary 11,754 The Hospital Association of which this Hospital is a part also includes the Mathilda Adler Loeb Dispensary, the Home for Aged and Infirm Israelites and the Lucien Moss Home for Incurables The report states that by the death of Lucien Moss a legacy has been left amounting to $200,000 for the erection and maintenance of a home for incurables, to be known as the "Lucien Moss Home for Incurables of the Jewish Faith"

For Federal Quarantine —Owing to the cases of yellow fever recently reported in New Orleans and elsewhere, one of the leading papers here makes a strong plea for the establishment of Federal quarantine, stating that the injurious effects, not only to life but also to commerce, is a sufficient reason why the National Government should have absolute control over all quarantine matters The article then recites the experience of quarantine by local boards of health, shotgun quarantine, etc , and suggests the old idea that the whole matter be transferred to the Marine Hospital Service, which could then manage epidemics of this disease without interference by State or county officials

Condition of the Soldiers in Philadelphia Hospitals —At the present time there are about one thousand soldiers being treated in the different hospitals of this city Three deaths have occurred at the Pennsylvania Hospital within the past few days, and of the 110 soldiers still present in that institution several are yet in a critical condition This Hospital has cared for upward of two hundred soldier patients and these deaths are the first yet reported

Drs Boardman Reed and **Albert Roussel** have both returned from Europe

Dr Laurence Turnbull, who has been for several months at his summer home in Florida, has returned much improved in health

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BY T. LAUDER BRUNTON, M.D., D.Sc., Edin., LL.D., Hon. Aberd., F.R.C.P., F.R.S.
PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL
LONDON, ENG.

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It is curious to think that the heart which is beating in the bosom of every one began to beat a considerable while before the body had assumed a human shape, and will, with very few exceptions, continue to beat a short time after the individual has forever become unconscious of this world and all its concerns. During the whole life of the individual his health, energy and activity, his success in life, his physical force, his mental power and even his moral qualities, all depend to a great extent on the way his heart performs its duty. Hardly less important than the action of the heart is the function of the vessels, because, even while the heart is beating regularly and steadily, obstruction to some of the cerebral vessels may transform a man who was far above his fellows in physical strength or intellectual power into a helpless paralytic or demented invalid. A study of the means by which the functional activity of the heart and vessels can be maintained or increased is therefore, of the utmost practical importance. This has been recognized in every age of medicine, and perhaps there is no movement more characteristic of the physician than that of feeling the pulse of the patient. By this simple act the trained finger can discover a great deal regarding the state of both the heart and the vessels and gain much information regarding the indications for treatment. Greater perfection in other means of physical diagnosis and especially in auscultation have tended to draw attention away from the pulse and direct it rather to the sounds which can be heard in the heart and vessels, so that more thought is now bestowed by many physicians upon actual valvular changes than upon the strength of the cardiac muscle. A little consideration will show that this is wrong. Many men live with serious organic disease for many years and are hardly conscious of it. When I was a medical student, one of my honored teachers had had pericarditis and suffered from great shortness of breath due to adherent pericardium. After a lapse of thirty-five years, during which he has continued to do much good work, he seems now to be much stronger and healthier than he was then. A similar occurrence takes place when the valves are diseased. In his excellent work on diseases of the heart, Sansom says that many who are the subjects of even considerable valvular affections can live a large portion of their lives unconscious that they have any such disease. Balfour states that he has seen many cases of aortic incompetency who have suffered from it from thirty-five to forty years, and an old friend of his had suffered from mitral regurgitation for nearly seventy years, yet lived a useful life nearly all that time, and even at the last, his heart was not the first organ to fail. A medical man whom I used to see had been rejected for life assurance on account of mitral disease, before the Crimean War, and had been told that he had not two years to live. He thought that as his time was short, he might as well see something of the world during it, so he entered the army, served through the Crimean War, saw a great deal of active service afterward, and died only about two or three years ago. These instances clearly show that considerable valvular disease may have little effect in shortening life or producing serious symptoms. But the case is very different when we come to consider the muscular walls of the heart, for any weakness in them not only enfeebles the circulation at once, but will secondarily produce valvular incompetence. The mitral and tricuspid valves are only large enough to close orifices of a certain diameter, and when these orifices become larger, as they do from enfeeblement of the cardiac muscle, the valves are not able to close the auricular and ventricular openings, and regurgitation takes place.

Weakness of the heart is not an absolute, but only a relative term, and however strong the heart itself may be, the limit of its power may be reached. The ancient Greek who carried the news of the battle of Marathon to Athens must have had a very powerful and healthy heart in order to do so, but even he overstrained it and fell dead at the conclusion of his task. The young American who performed a similar feat a few years ago showed himself either stronger or more fortunate than the hero of old, yet he must have felt the unpleasant symptoms of cardiac strain. These symptoms are known to almost every one, because in ordinary people who are out of training a short run to catch a railway train or steamer, more especially if a portmanteau or bag be carried, will bring on tightness and oppression across the chest, rapid, difficult and gasping breathing, giddiness and muscular weakness so that the person may be unable to stand. In feeble or elderly men these symptoms may be associated with a sense of impending death and [illegible] indeed may actually occur In such cases we find that moderate exertion in persons who are healthy but otherwise out of training, produces symptoms similar to those which occur in men of exceptional health and training, like that of the athletes of Athens, after severe strain But when the heart is feeble and fatty from imperfect nutrition, such as occurs from the chronic abuse of alcohol, or from atheromatous change in the coronary arteries, and especially when the heart thus degenerated has extra work thrown upon it by valvular disease, we find that slight movements, such as that of crossing the room, of getting up, or even of sitting up in bed, may bring on symptoms of cardiac distress similar to those which occur after a run to the train in middle-aged gentlemen, or after a run of many miles in athletes What I have just said is, I think, sufficient to prove the statement with which I started, namely, that cardiac weakness is a relative term, and expresses the power of the heart, not absolutely, but only in relation to the work that it is called upon to perform Probably there is not one in a hundred thousand, perhaps indeed not one in several millions of men, however young, strong or athletic, who could at a moment's notice start on a race such as that from Marathon to Athens and run it successfully In order to do so previous training is necessary, and the science of such training is to accustom the heart to excessive exertion by gradually increasing the work which it has to do, while at the same time the other organs of the body are kept in a healthy condition, so that the heart may receive a proper supply of healthy blood and its nutrition be thereby increased The best example of training is the classic one of Milo, the wrestler of Croton, who is said to have succeeded in carrying a full-grown bull upon his shoulders by beginning to carry it when it was a new-born calf and continuing to carry it every day afterward In this way, it is said, the athlete's strength gradually increased in proportion to the weight of the calf If training, then, be the method of bringing an ordinary healthy heart up to the mark required for excessive physical exertion, the same method ought to be successful in bringing the heart enfeebled by disease up to the healthy standard

This, I believe, is the truth, and of all agents for remedying cardiac weakness there is none so good as that of training The training must be adapted to the condition of the heart, and the amount of exercise given to a feeble, fatty heart must be very little indeed, and when even slight movements give rise to cardiac distress, we must insist upon absolute rest It is sometimes difficult to get this injunction carried out, for active people insist upon getting up and moving about the room, even when such movements cause distress But here the physician must insist that absolute rest in bed shall be maintained and that the whole strength of the patient shall be devoted to the recuperation of his heart One good rule is that the heart shall not be allowed to make a single extra beat that can be avoided If the patient rises in bed his heart will probably beat from five to ten times in a minute more than if he lay quiet, and if it does this for five minutes it has done from twenty-five to sixty beats too much Sometimes patients will grumble, but they may occasionally be comforted by simply reminding them that their condition is not nearly so bad as if they had broken their thigh bone, for then they would have been put up with a splint, unable to move for many weeks, and very likely have been suffering pain, while their cardiac disease is producing them no pain whatever Indeed, I have sometimes threatened patients to put them up in a long splint, as if they had a broken leg, when I find them rebelling against the enforced rest which is necessary for their recovery I do not think I can speak too strongly regarding the necessity for absolute rest in bed in cases of cardiac distress I often remind patients that they must treat a strained heart as they would a sprained ankle, and remember that just as the least extra movement will bring on a pain in the ankle, so it will increase the distress in the heart, while each increase still further prolongs the time necessary for recovery

But here another difficulty meets us By keeping the patient so quiet we no doubt lessen the work the heart has to do, but we diminish at the same time the circulation through the stomach, liver, intestines, kidneys and muscles, and we thus tend to a certain extent to interfere with the elaboration of healthy blood which is required for the efficient nourishment of the heart Here massage comes in, and when this is skilfully applied, it not only increases the circulation through the various organs of the body, but while doing so it gives the heart rather less than more to do For when the patient is left to himself the heart has to drive the blood onward through the whole circulation, but when the masseur is at work he moves the venous blood along the veins, the lymph along the lymph spaces and lymphatics, so that his hand is really a kind of accessory venous and lymphatic heart At the same time it actually lessens the work to be done in the muscular arteries, for Dr Tunnicliffe and I found that massage of the muscles causes the blood to flow through them much more quickly than when they are at rest We see, then, that in the worst cases of cardiac distress the chief remedies are absolute rest and massage But there is a long interval between this condition and that of ordinary health, which must be filled up by gradually increasing movements These movements have of late years received a great deal of attention, more especially from Ling in Sweden, Schott of Nauheim, and others The essence of these movements is that they must be slow, gentle, and gradually increased against resistance, that they shall not cause the patient any distress, but only call upon the heart for such work day by day as it is well able to do But before the patient has reached this stage where he is able to take ordinary exercise, another system of treatment, namely baths, may be employed to assist the action of the exercises In the treatment which is so successfully employed at Nauheim the baths contain chlorids of sodium and calcium, the proportions being 10 per 1000 of chlorid of sodium at the commencement, gradually raised to 30, and of chlorid of calcium 2 per 1000, gradually raised to 3 or even 5 per 1000 At Nauheim the waters contain carbonic acid, but this may be artificially supplied by means of bicarbonate of sodium and hydrochloric acid, or tablets specially prepared for this purpose

The effect of these baths is to stimulate the skin and increase the flow of blood through it, while at the same time a reflex influence is exerted upon the heart through the vagus, by which the pulse is slowed It is evident, by dilating the cutaneous vessels, the effect of the bath upon the skin is somewhat similar to that of the masseur upon the muscles, that is, in both cases the bed through which the blood has to flow becomes wider, and the resistance to the action of the heart is consequently diminished Where the tension is great it may be still further diminished by the use of nitrites or substances having a similar reaction But the most important effect of the baths is probably a reflex one upon the heart, and perhaps I may make this effect more clear by a comparison with athletic feats To walk a thousand miles in six weeks can hardly be regarded as any feat at all, but to walk a thousand miles in a thousand hours is a very different thing indeed, and may be regarded even now as beyond the capacity of most men There is no more actual work involved in walking twenty-four miles in one day than in walking twenty-four miles in twenty-four successive hours, one mile every hour The difference between the two is the shortness of time allowed for rest and recovery between each period of exertion in the latter When this time is further shortened, as it is in walking a thousand half miles in a thousand half-hours, the difficulty becomes incomparably greater It would probably be almost impossible for any one to perform this feat by walking a mile at the beginning of each half-hour, but in order to increase the interval for rest, one mile is done at the end of one half-hour and the next mile at the beginning of the next Supposing that a man walks four miles an hour, or what is equivalent to it, one mile in a quarter of an hour, he would only have a quarter of an hour's rest between each successive mile if he walked it at the beginning of each half-hour But by walking two miles together he is able to obtain half an hour's rest, and it is the prolongation of the rest which enables the man to go through with the feat Now, the action of the heart is like that of the athlete who has very short periods of rest between his periods of action, and just as the athlete's work is rendered more difficult by shortening his periods of rest, so is that of the heart by increasing the rapidity of its pulsations For just as the athlete will take about the same time to cover his mile whether he be walking twenty-four miles a day, one mile in each hour, or half a mile in each half-hour, so the heart takes about the same time to perform its systole whether it be acting quickly or slowly Increased rapidity of the pulsations, therefore, means a shorter time for rest and consequent loss of time for recuperation The inhibitory fibers of the vagus, which slow the heart, are the nerves which tend to increase its nutrition, and when they are cut through and the heart is allowed to beat more quickly, it is very apt before long to undergo degeneration It is, therefore, evident that any means by which we can stimulate the vagus and slow the heart is likely to aid us in restoring its power This is the effect which baths seem to have, and they probably act reflexly on the vagus through the nerves of the skin

But we have, in addition, various drugs which stimulate the vagus roots in the medulla oblongata or the terminal endings in the heart itself The number of these drugs is very great, and very many of the arrow poisons and ordeal poisons employed by savages act on the heart in this way

Among them may be mentioned the active principles of digitalis, strophanthus, erythrophleum, convallaria, adonis vernalis antiar, tanghinia, hellebore black and green, oleander squill, manganja, carravol, vao and cactus, but among these the most important are certainly digitalis and strophanthus These drugs not only slow the heart, but they increase the energy with which it contracts The energy may be still further increased by a combination of strychnin or nux vomica with the drugs already mentioned, for while they appear to act chiefly on the muscular fiber, strychnin exerts its stimulating action on the motor ganglia of the heart By the combined use, then, of rest, massage, graduated exercises, baths and cardiac tonics, the heart may be brought from a condition of extreme weakness to one of moderate strength

And then comes in the use of another system of training which is usually associated with the name of Oertel The essence of this consists in gradually increasing the work that the heart has to do by making the patient walk farther and farther along paths of gradually increasing steepness, so that at the end of the treatment he will be able to walk a considerable distance and up a pretty steep incline This treatment, however, requires careful supervision, lest at any time the patient overtax his strength, and the supervision should be exercised from day to day, because the health and strength of a man may vary very considerably in two successive days, not from any change in the heart itself, but from changes in other organs and more especially in the digestive or eliminative organs Attention to these is most essential in diseases both of the heart and vessels, but to enter fully upon this subject would take me too far, and I must conclude this paper, which I fear is already too long, by simply mentioning the great use of cholagogues, purgatives and alteratives, such as iodid of potassium, in diseases of the heart and vessels, more especially in atheroma, which, by affecting the coronary arteries, leads to disease of the heart itself The utility of iodid of potassium is very great, but sometimes it must be administered in large doses, and frequently I believe the full advantage is not obtained because the doses are not sufficiently large

To resume shortly what I have said in this paper, the main risk in cardiac disease is from feebleness of the muscular wall of the heart, and the chief remedy is to lessen the work to be done till it is not excessive even for the most feeble heart, to slow the heart's action so as to give it time for rest, and to train the heart by graduated exercises until it is able to meet all the ordinary, or perhaps even all the extraordinary, demands upon it

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THE USE OF MORPHIA IN BRIGHT'S DISEASE

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo , June 7-10 1898

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Few opinions are more firmly held or more dogmatically taught than that opium must not be given to patients with albuminuria or Bright's disease The more extreme upholders of this doctrine teach that the presence of albumin in the urine, even when the kidneys are not diseased, as in cases of fever, prohibits the use of opium Many years of careful investigation of this subject convince me that this opinion is wrong I avail myself of this opportunity to again draw attention to this subject Several writers in America and England have recorded their experiences that opium either by the mouth or hypodermically may be administered, not only without danger but with great advantage, to some patients with uremia Dr Loomis ("Diseases of Respiratory Organs, Heart and Kidneys,' 1875) states that he has employed morphia hypodermically in puerperal eclampsia with marked success He says that morphia may be given hypodermically to some, if not all, patients with acute uremia without endangering life He states that the almost uniform effect of morphia so administered is 1, to arrest muscular spasm by counteracting the effect of the uremic poison on the nerve centers, 2, to establish profuse perspiration, 3, to facilitate the action of cathartics and diuretics He has given half a grain of morphia hypodermically to patients completely comatose, with uremia, with benefit Austin Flint ("Clinical Lecture," *New York Medical Journal*, reported in *Medical Times*, April, 1880) states that uremic convulsions in connection with hard contracted kidneys are well treated with hypodermic injection of morphia There is no question in his mind, he says, that the administration of morphia in pretty full doses is of considerable service in quite a number of cases of uremic poisoning with nausea, tremor, impaired vision, etc Roberts Bartholow ("Treatment of Diseases by the Hypodermic Method") asserts that in the treatment of uremic convulsions considerable doses of morphia are demanded, to an adult half a grain may be administered at once, and repeated so that as much as two grains may be injected within a few hours in severe cases Stephen Mackenzie (*Lancet*, Aug 3, 1889) reports some cases of uremia treated with hypodermic injections of morphia One patient with paroxysmal dyspnea, with weak heart was relieved by one sixth of a grain of morphia Another case with breathlessness, irregular action of the heart and headache was greatly relieved by the same treatment, the patient obtaining refreshing sleep the first time for a long period He has benefited patients with renal asthma by hypodermic injections, also removed headache He refers to two cases reported in the *British Medical Journal*, March 16, 1888, suffering from uremic convulsions, both of whom recovered after the hypodermic use of one grain of morphia Robert Park (*Practitioner*, Vol xxiv, 1880) recommends this treatment in uremic insomnia and orthopnea Powell (*British Medical Journal*, 1885) injected one-twelfth grain of morphia into a child 6 years old suffering from uremic convulsions, due to acute nephritis, following scarlet fever The convulsions subsided, there was no recurrence and the child recovered

Osler writes concerning uremia, 'for the restlessness and delirium morphia is indispensable Since its recommendation by Stephen Mackenzie in uremic states, some years ago, I have used this remedy extensively and can speak of its great value in these cases I have never seen ill effects or any tendency to coma follow" My observations entirely confirm these statements and yet the use of morphia in Bright's disease is denounced with little less than horror by most practitioners, though they all confess that they have never tried it, that, indeed, they dare not do so Morphia hypodermically employed is of conspicuous benefit in the shortness of breath of uremia This may be due to different causes With some patients the compensatory hypertrophy gives way and they suffer from cardiac dyspnea, in all respects similar to that from valvular defects with insufficient compensations, notably, sleep in aortic regurgitation The paroxysmal shortness of breath prevents sleep, on falling asleep they are soon wakened by distress of breathing The patient is compelled to start up in bed, often throws his legs out of the side of the bed panting for air, or the sleep may be distressed and harassed by Cheyne-Stokes breathing This distressing condition, whether due to deficient compensation, in Bright's disease or to valvular defects, is almost invariably relieved by hypodermic injection of morphia, and several hours' refreshing sleep are secured, to the great relief and comfort of the patient, who on the following day is refreshed, takes and digests and assimilates his food better Morphia can scarcely be too highly commended in such a condition, and although it does not cure, it delays the end and greatly lessens the distress of the declining days of life

Uremic asthma, again, yields promptly to hypodermic injection of morphia On the other hand, persistent distress of breathing may be due to dropsy, the lung being hampered by an abundant serous effusion into the cavity of the chest I need hardly say that such a condition is not improved by the use of morphia

The headache and sleeplessness occurring in uremic patients can generally be removed by the hypodermic injection of morphia I have not given this treatment in uremic convulsions or coma, but I have largely used it in many cases of uremia with other troubles, and am sure that morphia may be given to such patients with every prospect of benefit and no risk of harm

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THE PLACE OF HYDROCHLORIC ACID IN THE TREATMENT OF DISEASES OF THE STOMACH

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo , June 7 10 1898

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The time has come for a definite and precise statement of what hydrochloric acid can do in the treatment of stomach diseases—when and how it is useful as well as when and how it can be harmful Riegel, in his recent work[1] very pertinently remarks 'While formerly HCl was prescribed in nearly all dyspeptic conditions, its employment has of late been essentially limited, since it has been recognized that it is by no means true, as was once assumed, that in almost every form of dyspepsia a lack of HCl exists" There is much other testimony to the effect that even among the aggravated stomach conditions for which the advice of a specialist is sought, an excess of this acid is very often found in the gastric juice Could all cases of gastric derangement, including the earlier stages of catarrhal affections, be brought to the test of a chemical analysis of the stomach contents, it is probable that those with either a normal or excessive secretion would be largely in the majority And none of these require the administration of HCl as a medicine Indeed, it is capable of doing pronounced harm in all such cases We should expect, a priori, that to introduce this active drug artificially into stomachs which already secrete it in too large quantity, would intensify the depressing and painful symptoms of hyperchlorhydria Experience has abundantly shown that this result usually follows in such cases when the drug is administered in considerable doses

The well-known antiseptic power of HCl might tempt one to give it in the numerous cases in which, despite the presence of a normal percentage of this acid in the gastric juice, the patients suffer from eructations of gas as a result of fermentation in the stomach, and (as still more frequently happens in cases with a normal or over-abundant secretion of gastric juice) are plagued with a large amount of intestinal flatulency Indeed, this remedy is administered every day by excellent physicians in these conditions, not after having actually learned through a gastric analysis that a full proportion of HCl is secreted, but upon a venture, assuming that there may be a deficiency, and if not, that in any case the drug is antiseptic and must do some good Just here is where the mistake is made To administer HCl in cases in which it is not deficient, is not only to do no possible good but generally to do harm, and for these reasons This drug, as has been pointed out by the writer in previous papers,[2] acts even in small doses as a decided stimulant to the gastric glands, and when long continued rarely fails to increase largely their activity, except in gastric atrophy or cancer This property which renders it so useful as a remedy when the gastric juice is insufficiently secreted, becomes a cause of injury in the opposite condition Therefore, HCl taken into a stomach already supplied with it, and the stomach contents after meals being thus as acid as nature intended them to be, must not only produce at the time an excessive degree of acidity with all the harmful results, especially to digestion in the small intestine which this implies, but if administered often enough may easily set up a more or less permanent hyperchlorhydria

But it may be urged that we might well risk some over-acidifying of the gastric juice and the resulting impairment of intestinal digestion, if by this means we can lessen fermentation in the stomach Unfortunately, however, in the cases in which there is no deficiency of HCl, very little, if any, antiseptic action can be demonstrated as a result of its administration In the acid gastritis described by various authors in Germany and France, and especially in recent treatises by Hemmeter[3] and VanValzah and Nisbet[4] in this country a condition which my own experience has shown to be very common and the one most often present, when a normal or excessive proportion of HCl is found associated with much fermentation, the gas forming bacteria seem to acquire a tolerance for the HCl and to thrive in spite of it At all events, the fact that even a very great excess of HCl in the human stomach does not prevent fermentation, has been made familiar to the writer by a large number of observations Riegel has lately called attention to it without attempting to account for it In his work already referred to, he says 'That the presence of free HCl in the stomach contents is no hindrance to the development of an abundant gaseous fermentation is a long since established clinical fact, which through the researches of Kuhn and Strauss has been given a further support It has been proved that the HCl of the gastric juice under the existing conditions has absolutely not the disinfecting properties against the yeast fungi which has been established, for it is in a pure solution of the drug, or in artificially prepared gastric juice, but on the contrary, the view always maintained by us has been confirmed, that when stagnation exists the preferred soil for the gaseous fermentation is afforded by just those cases which show a normal or over-large amount of HCl Some experiments recently reported to the Hospital Medical Society by Toinot and Brouardel and published in the *British Medical Journal*, show that the bacillus coli can be made to acquire a tolerance for arsenious acid even in strong solutions They succeeded in training this bacillus to grow well in bouillon containing three grams to the liter of arsenious acid Then why may it not be that bacteria in the stomach gradually become accustomed to the presence of HCl until finally even a large excess of it does not affect them ? At all events the gas forming micro-organisms are found to flourish in the stomach even when there is present a very large excess of HCl, and in these cases when they have become chronic, it is the rule to have grievous complaints of flatulency, both gastric and intestinal with an endless train of nervous symptoms, including especially mental depression and insomnia, along with usually constipation

What has already been said as to the contra indications for HCl tells in a large measure where and how it can be helpful in the treatment of gastric affections There are a few prominent gastro enterologists who seem to place little reliance upon this drug in any case, but the writer has found it of exceeding value, not only as a palliative in cases of atonic dyspepsia, but also as a reconstructive tonic in cases of chronic gastric catarrh, which have not yet progressed to entire atrophy of the glands In fact, the results which have followed its administration in my practice (usually in combination with pepsin) fully warrant me in assigning to it in the therapeutics of all stomach diseases characterized by hypopepsia (except cancer and atrophy) a place second only to diet and the mechanical treatments, including especially abdominal massage My note books contain the histories of a large number of cases in which the administration of HCl for from one to four months, more or less continuously has been followed by a most notable and apparently permanent increase in the secretion of the gastric glands In the majority of my cases massage and the use of pulleys or other suitable exercise for the strengthening of the trunk muscles, were also employed as a regular part of the treatment, and the results in these can not be cited as proving the efficacy of any one of the curative measures relied upon The cure of the patient having been naturally the first consideration, the treatment has not been limited to any one agency, no matter how valuable A large amount of evidence has thus accumulated which, it must be admitted, is inconclusive in so far as concerns the relative value of the various remedies used

But, fortunately for the purposes of this paper, some of my hypopeptic patients found it impracticable to take massage, and at the same time unable for various reasons to carry out with any regularity the directions as to methodical exercise, and the marked gain in digestive power acquired by these must be credited mainly to the medicine taken

Wegele and Hemmeter[5] among recent authors bear witness to the powers of HCl as a stomachic or stimulant to the peptic glands Hemmeter also quotes Riegel, Reichman and Mintz as having reported cases of achylia gastrica in which the restoration of the secretion of HCl was effected by a more or less prolonged dosage with the same acid Hemmeter gives 20 drops of the diluted HCl in appropriate cases in two ounces of water every half hour, beginning fifteen minutes before meals and continuing it till half an hour after the meal He has [illegible] lent results from this method [illegible] the motor function of the stoma[illegible] as well as the glands, a view which my own experience confirms My practice has been to give much smaller doses I direct the patient usually to begin with a dose of four or five drops of the dilute HCl given after each meal in this way The amount prescribed, which is gradually increased, if necessary, up to ten, or exceptionally even to twenty drops, is added to half a goblet of water, which the patient is directed to take in small sips at frequent intervals during an hour or hour and a half In cases of complete or nearly complete anacidity the sipping of the diluted acid is begun immediately after the meal, but in other cases not till the meal has been over for half an hour In this way the amylaceous portions of the food are given time for the action of the saliva I was led to adopt this gradual method of administering the acid through having observed a number of cases with absence of free HCl in which the patients complained of a marked burning in their stomachs after taking quite small doses of the remedy This apparent intolerance of the drug was overcome entirely by having it taken gradually in small sips, and the results eventually were quite as gratifying as in other cases in which no such disagreement had occurred Except in those cases, where in spite of deficient or absent HCl secretion there had been demonstrated a normal proportion of pepsin or of pepsinogen, I have usually combined with HCl a moderate amount of a good preparation of pepsin in the form of a glycerole When owing to the exigencies of a busy practice the quantitative tests have included the total acidity and amount of free HCl only, pepsin has generally been added to the mixture, and the very large proportion of such cases in which the digestive power has decidedly increased insomuch that the patients, after a time, were able to do without stomach remedies, has led me to suspect that these doses of pepsin may, like HCl itself, exert a real curative influence, acting to some extent as a stimulant to the cells which secrete pepsinogen In the cases, reports of which are given below, no very severe restrictions of the diet were imposed, though hot or fresh bread, fried articles, sugar, nuts, vinegar, the sourer fruits, especially uncooked, and shellfish, except oysters in their season, were excluded, and the patients were enjoined to eat slowly, using their saliva to moisten all starch foods, and to drink either nothing or very sparingly at meals

Case 1 —Lady aged 36, resident in New York, while on a visit to Philadelphia came under my care on account of chronic indigestion with much fermentation, constipation, anemia, irregular menses, impaired sleep and cardiac palpitation She gave a history of having suffered in a similar manner for several years, and of having had more or less trouble with her stomach for twelve years Had formerly had much pain after meals, and for this had been directed to take freely and continuously tablets made up mostly of sodium bicarbonate about 5 grains in each She began by taking one every hour, or 16 a day, but finally reduced them to 8 daily These were continued with little or no medical oversight for three years, until they markedly disagreed by causing nausea External examination when this patient came under my care in December, 1896, showed the right kidney to be loose and very movable and the stomach dilated, extending from the normal limit above to several inches below the level of the umbilicus, with tardy expulsion of the contents The liver area was somewhat smaller than normal, but the other organs presented nothing abnormal Analysis of the stomach contents after a test breakfast, showed a total acidity of only 24, and an entire absence of free HCl Rennet test, no result in twelve hours Indican in excess in urine My first prescription contained in each fluid dram 10 m of dilute HCl with 15 m of glycerole of pepsin, 1¼ m of Tr Nuc Vom and ½ m of carbolic acid A teaspoonful was added to half a glass of water and beginning half an hour after meals the patient sipped the entire solution during the hour following Shortly after beginning treatment she was attacked with a severe diarrhea, which necessitated a different line of medication for a week or more Then a new digestive mixture was given with the dose of HCl reduced one half, and the other ingredients except pepsin omitted

February 25, 1897, the patient came on from New York and reported improvement in nearly all ways She had continued her last mixture The stomach analysis now showed T A 40, and free HCl 0146 Less fermentation and better sleep No excess of indican in urine The pepsin was now left out of the HCl mixture and a few drops of carbolic acid were again added to it Massage of the abdomen was tried but proved too exciting to the menstrual function, the first treatment having brought on the flow out of time and in excess Since the above date the patient has seen me at long intervals only October 7, 1897, she came on to Philadelphia and reported that she had continued the HCl mixture until six weeks previously, and considered herself then practically well She had gained 12 pounds in weight, presented a good color and clean tongue, and had lost most of her symptoms except the constipation She afterward fell ill with grippe in New York and came under the care of Dr Lockwood in that city, on account of this disease and its complications She was confined to her bed or her room there a large part of the winter, but at the end of it all her physician wrote me under date of March 28, 1898, that a gastric analysis showed total acidity 50, free HCl 22 (equal to 080) and combined HCl 22 She reported herself to me again April 4, 1898, and looked well considering her recent long illness There was improved gastric motility, but her stomach was still greatly enlarged, she having declined intragastric electricity and abdominal massage, the two surest remedies for that condition

Case 2 —Lady, aged 40, wife of a physician in a neighboring city, consulted me March 22, 1897, on account of paroxysmal attacks of indigestion, from which she had suffered for twenty six years They were characterized by violent eructations of gas, and seemed to be caused by some unusual emotion or excitement Formerly they occurred once in several months, and were not followed by any specially unpleasant consequences except nausea and some feeling of oppression But within the last two years there have been three serious attacks of the kind, which were followed by colicky pains and jaundice, with pruritis lasting a week These attacks also followed some marked nervous shock or emotional excitement One occurred just after her father's death Between times she is said to have had usually fair digestion, with no pain or discomfort after meals and very little eructation Her bowels have been fairly regular as a rule, but she is very constipated always at the time of the attacks The latter of late, have sometimes recurred every day for several weeks, accompanied by severe colicky pain and vomiting Ingesta taken two or three days before have occasionally been vomited Color pale and looks dejected Physical examination Lungs and heart normal Liver enlarged Stomach, slight displacement downward along with atonic dilatation The upper boundary was one to one and a half inches too low, and the lower boundary between two and three inches below the level of the umbilicus The kidneys not palpable No tumor Gastric analysis after test breakfast T A 12, free HCl entirely wanting Small amount of mucus Diagnosis Chronic catarrh of the stomach and duodenum Prescribed ℞ Tr Nuc Vom flʒii, Ac hydrochlor Dil qs ad flʒi Sig 10 to 15 drops in half glass of water after meals Diet to be as nonfermentable as possible Two months later patient reported improvement No further attacks August 6 of the same year her husband reported that she had been obliged to continue the mixture regularly Every attempt to omit it was followed by a return of indigestion October 14 Patient recovered a few days ago from one of her severe attacks, which lasted two weeks with eructation, pain and constipation Gastric analysis T A 18, free HCl none, mucus very small amount Prescribed ℞ Ac hydrochlor dil flʒvi, glycerol pepsin qs ad flʒii Sig —Ten drops in half a glass of water half an hour after meals by sips Every other week to take the following ℞ Argent nitrat gr x, Ext taraxaci ʒi M et ft pil No lx Sig —One after each meal April 21, 1898 Has taken both medicines as above ordered—the HCl mixture continuously and the silver half the time She now has a good color and is very much stronger No further attacks Gastric analysis T A 40, free HCl 041, mucus a small amount The lower border of the stomach was found to be near the level of the umbilicus

Case 3 —Lady, a teacher, aged 25, referred by Dr Samuel Bolton of Philadelphia, October 6 1897 Her chief complaint was headaches and vomiting every few days, with much nausea and occasional vomiting, especially evenings, between the attacks There was also stubborn constipation and feeling of load in her stomach after meals Organs generally found healthy except stomach, which was moderately dilated, extending down to half an inch below the umbilicus, with delayed emptying The gastric analysis showed only a very small amount of free HCl (014) though the T A was 66, representing largely fermentation products There was much mucus in the stomach I advised lavage and the combination of HCl and pepsin as the main treatment On account of marked starch indigestion, she also took Taka Diastase for a time, and Roncegno Water was taken for some weeks to bring up the quality of the blood

On April 9, 1898, I found the stomach much retracted in size, the lower border being one and a half inches above the umbilicus, and the gastric analysis showed T A 56, free HCl 075, mucus a very small amount She had had no severe headaches with vomiting for three months, and had regained a normal color, though her gastric catarrh is not yet entirely well

Case 4 —Gentleman, aged 66, consulted me July 21, 1897, in Atlantic City on account of chronic indigestion, from which he claimed to have suffered nearly all his life Painful accumulations of gas and obstinate constipation were prominent features The external physical examination revealed nothing abnormal Gastric analysis T A 16, free HCl wanting Starch digestion good Mucus very small amount He was placed upon HCl and pepsin in the usual way He has since seen me several times on account of his wife, but reported that he himself was doing so well on the digestive mixture as not to require any further medical assistance

December 16, he was seen and was then feeling well On April 22, 1898, his wife called to consult me for herself and reported that her husband had been continuing his HCl and pepsin, though less regularly, having virtually recovered his health He had taken no other medicine except a little nux vomica during the first few weeks and a laxative at night He had not had massage except such kneading over the abdomen as he had been able to give himself

In this case no opportunity has been offered of testing the stomach contents again, but it is highly probable, from the decided improvement in the patient's digestion as well as in his general health, that the gastric glands are now doing much better work

Reports of a number of other cases might be added in which under a treatment consisting either entirely or mainly of the administration of HCl and pepsin, conditions of apepsia or hypopepsia improved more or less markedly, the gastric secretion having returned to the normal Without claiming that such fragments of clinical experience can be accepted as demonstrating beyond question that HCl stimulates the gastric glands, it must be admitted that a strong presumption is thus established as to the existence of such an action

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RECENT THERAPEUTIC APPLICATION OF THE VALERIANATES OF CREOSOTE AND GUAIACOL

Presented to the Section on Materia Medica Therapeutic and Pharmacy at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY J W WAINWRIGHT, M D

NEW YORK CITY

It can be safely assumed that the marvelous evidences of progress which the world has witnessed during the last quarter of a century in the science of medicine, especially in the department of clinical medicine and surgery, in very great measure may be justly attributed to the discovery of the relationship which exists either directly or indirectly between certain diseases and a comparatively small group of micro organisms which are now known to be pathogenic Out of this application of bacteriology or microscopic botany to the practice of medicine has been developed our present aseptic and antiseptic methods of wound treatment and also our therapeutics of many infectious diseases The knowledge that we now have of the causes of infection in wounds we owe to the genius of Lister, who has taught us also how we may securely guard against suppuration and other germ-induced pathologic conditions Similarly Pasteur Koch, Klebs and others have not only enlarged our sphere of information as to the nature of many diseases to which mankind is liable, but have also clearly indicated the only means of preventing their future progress by isolation and disinfection

Sepsis therefore occupies an important position in the mind of the clinician, and in consequence, imperative demand has arisen for a class of remedies known as antiseptic agents on account of their ability to counteract the pernicious activity of pathogenic micro-organisms The chemists have been diligent in their investigations and have placed in the hands of the therapeutist powerful weapons to be used in the warfare between the human body and the invading hosts of disease breeding cocci and bacteria

We must not fail to recognize and fully acknowledge the important rôle played by the white blood corpuscles in protecting the human organism from infection, without such natural antiseptics the human race would have disappeared many centuries ago The aim of therapeutics in this class of diseases is to aid in the battle between the leucocytes and the germs by increasing the functional activity of the former and weakening the virulency of the latter It is also important to acknowledge the indispensable aid to be derived from hygienic measures in this direction, and especially the great value of sunlight pure air, and wholesome, easily assimilated food, all of which, from this standpoint, may be regarded as accessory antiseptic agents

Many of the chemic antiseptics are poisonous to all forms of life, and when these agents are used in medicine it is necessary that we be careful that in our efforts to destroy the bacteria, we do not inflict permanent injury to the patient One of the most remarkable of our antiseptic remedies and at the same time perhaps, the least poisonous to the human system, is beechwood creosote, which has had an established place in medicine for more than half a century, but as you are aware, creosote has been largely adulterated in the shops and impure carbolic acid substituted, and thus the best results were not at first secured As a result of Sommerbrodt's efforts on behalf of creosote from beechwood, however, it received greater consideration in the treatment of phthisis, and this interest resulted in our obtaining it finally in a pure state Creosote being a compound of various elements, chiefly guaiacol and creosol it was thought by some that more favorable results might be obtained from the principal ingredient guaiacol, and this was isolated and used with results known to all In these remedies we found prompt antiseptic and germicidal properties with less poisonous effects upon human beings than from the common phenol or carbolic acid, which in the early day of Listerism was the most prominent among our antiseptic agents Guaiacol has also become widely known through its remarkable power of reducing temperature when applied to the surface of the body, which discovery is due to Sciolla

This brings us to the consideration of the newer of the many derivations or compounds of creosote the valerianates of creosote and guaiacol for brevity denominated eosot and geosot They are nearly neutral esters, having an odor resembling somewhat that of the English walnut, and boiling under normal atmospheric pressure at about 260 degrees C, are soluble in alcohol, ether and benzine They are administered internally in coated gelatin capsules, each containing $3\frac{1}{3}$ min and in liquid form either diluted with absolute alcohol and flavored with oil of peppermint, cinnamon or cloves or directly in milk The dose is from $3\frac{1}{3}$ to 9 min three times a day

A convenient formula is as follows

℞ Eosot or geosot, 20 ccm (fl dr v)
Alcohol 95 per cent , 80 ccm (fl oz ii dr v)
Ol menth pip , 0 6 ccm (gtt x)

M. Each tablespoonful contains about 12 min of eosot or geosot Mix dr i to dr iii with plenty of milk and give this dose in three equal parts daily

It is generally conceded that in the treatment of phthisis, for a decade at least, creosote or its derivatives have given the best results of any of the multitude of remedies lauded, but creosote has been so destructive to the digestive and alimentary functions that but seldom a patient would be found who could continue its use sufficiently long or in large enough doses to produce a lasting or permanent effect The poor patient would lose his appetite and desire for food and consequently his physical strength and power to battle with the disease Besides this, there was ever present the depressing and self-conscious factor of his own limitations toward ultimate recovery increased by the never-ceasing gastric distress

The valerianates seem to meet all the requirements as remedies destructive to this disease without untoward effects They increase the appetite and weight, relieve cough, hectic and night sweats The valerianic acid component, by its sedative action on the nerve centers, particularly the sympathetic, enables the patient to enjoy quiet and refreshing sleep as well as a sense of ease and comfort not secured by other remedies Being eliminated largely by the mucous membrane their bacteriologic effects are quickly apparent when used internally in bronchitis, acute gastritis, chronic gastrectasia, typhoid fever, and intestinal irritation, when used externally in lupus and all purulent inflammations, as well as subcutaneously in glandular enlargements of tubercular origin, in hip joint and other bone complications, and as a spray in all nose and throat affections

Physiologic action—Providing the amount of acidity of the secretions be sufficient to replace that of the acid in the combinations, the valerianates of creosote and guaiacol would be decomposed in the stomach The hydrochloric acid of the gastric secretion varies greatly in different people as well as in the same patient from day to day and as the estimate is made before or after meals There is also a great variation of acidity in consequence of the character of the diet as well as at different periods of the day All these conditions must be considered in determining to what extent a combination will be separated into its several constituents in the stomach, hydrochloric, being the stronger of the acids, would under certain conditions replace the valerianic acid or have the effect of decomposing the combination of the valerinate, thus releasing the creosote or guaiacol in the stomach, but such a degree of acidity would very rarely occur, and without an abnormally large amount of hydrochloric acid one would not find the decomposition take place there, but that the remedy would pass on into the intestines and upon encountering the acid antagonist, alkalinity, would then and there be resolved into the two constituents, guaiacol or creasote and valerianic acid This would be the usual method, but it might occur that the alkalinity of the intestinal secretions would not be of sufficient degree to decompose a compound, especially if the remedy were of a character to resist its action This would occur to a greater or less extent with a combination whose constituents were chemically firmly fixed The more stable the combination the more surely would a greater or less amount escape in the feces unchanged It is not at all probable that this decomposition is brought about by the ferments or the products of fermentation, as has been claimed necessary for the decomposition of the carbonates of creosote and guaiacol, but that the remedies would act largely in the alimentary tract as they do in the test tube, due allowance being made for slight variations not likely to be material If the liberation of the several components depended upon the products of fermentation alone, or even to a quite considerable extent, we would not be able to secure the germicidal effects of the creosote or guaiacol in organs or tissue remote from the intestinal tract as in phthisis, for the creosote or guaiacol having once rendered the intestinal tract aseptic it would remain so for a considerable time, and if the remedy were continued it must necessarily pass on through unchanged, not encountering the products of fermentation necessary to decompose it

This theory can not be reasonably assumed, for clinically we know that the creosote or guaiacol can be pushed to such an extent as to completely saturate the organism It has been claimed that the extreme volatility of the valerianates admits of their absorption directly into the circulation as the valerianates, and without the necessity of a chemic action, that they are separated into their component parts after entering the circulation by the alkalin constituents of the blood, as is evidenced by the odor of creosote or guaiacol so quickly appearing upon the handkerchiefs of those using them for coryza This property is of great advantage, as it is apparent that the patient would thus be quickly under their influence without the necessity of chemic changes in the intestinal tract to prepare them for absorption by a decomposition necessary in the more stable compounds such as salol, resorcin, the carbonates, etc To this property may be attributed the small doses necessary when compared with other remedies, as the whole of the valerianates is utilized

As regards the rationale of the action of guaiacol,[1] it has been found that "the beneficial effect of guaiacol in tuberculosis is chiefly due, not to any direct action upon the digestive organs or the blood, but to its combination in the blood with the albuminous bodies (toxalbumins) derived from the growth of the bacilli, that the absorbed guaiacol combines with these products and renders them harmless, and that they are further changed by oxidation, the guaiacol being liberated as a salt of ethyl sulphuric acid, and the other decomposition products being eliminated in the urine The products of the bacilli bring about the fever sweating, disordered digestion, etc, and with their destruction the ill effects pass away" This appears a very probable explanation and it is evident that an organic compound such as the ester of valerianic acid, which is quickly and easily decomposed, yielding nascent guaiacol in a condition ready for immediate absorption into the blood-vessels, is the most efficient and economical method of administering this invaluable remedy It would also seem that this is the best form in which to give guaiacol in the treatment of typhoid fever and other intestinal disorders

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[1] Berliner Klinische Wochenschrift, Jan 18 1892

The clinical results obtained with the valerianates of creosote and guaiacol may be summarized as follows

Dr Rieck, Bassum, Germany, has an article in the August number of the *Medizinal Zeitung* of Berlin, August, 1897, on the valerianate of guaiacol in the treatment of tuberculosis which shows the following results Of seventy six cases treated in the various stages and forms of tuberculosis, he reports thirty-one cures, and thirty-two of the remainder so much improved as to have almost reached complete recovery, nineteen of the thirty-two giving up all treatment because they felt perfectly well There were eight fatal cases in the whole number treated, rapid and extensive destruction of the lung three, cerebral tuberculosis two, and general tuberculosis three The Doctor says that during his whole experience he has never been able to obtain results which even approximated those treated with the valerianate of guaiacol (geosot), not only in tuberculosis but in bronchitis, especially of children, in broncho-pneumonia, catarrh of the bronchi, larynx, pharynx and nasal passages in acute gastric catarrh and in bone tuberculosis by injection directly into the bone tissue, and finally in lupus In the cases of catarrh of the apex treated, twenty four in all, there was quick and permanent relief, night sweats disappeared, sensitiveness to atmospheric changes lessened, weight and appetite increased and the cough was reduced to an occasional evacuation of mucus which soon became less tenacious and was easily ejected It acts pre eminently upon the mucous membranes and is therefore useful in diseases of the stomach, intestines and the respiratory passages It is especially a remedy for tuberculosis, producing no irritation whatever, but in a few days bringing a feeling of comfort and ease

Dr W Zinn of the "Second Medical Clinic University of Berlin," known as Professor Gerhardt's Clinic, published in *Therapeutische Monatschefte*, Berlin, 1898, a communication entitled "Further Results with the Valerianate of Creosote (eosot)," in which he states that "Dr Grawitz reported in the *Therapeutische Monatschefte*, Berlin, July, 1896, thirty five cases of tuberculosis treated with the valerianate of creosote (eosot) as well as a number of stomach and intestinal disturbances, stating that the remedy was taken in all cases without ill effects to the digestive functions I have now to report that since the publication of Dr Grawitz's article we have treated eighty more cases of tuberculosis with the valerianate of creosote As a rule, the remedy was given in capsules, each containing 3¼ min, one or more capsules three times a day In several cases the medicament was continued for several months It was used in all forms of tuberculosis and it was especially noted that there was in no case disturbance of the gastro intestinal canal It is accepted that of all the many remedies which have been recommended for tuberculosis the beech wood creosote alone retains a prominent place notwithstanding its use has so often been productive of disagreeable effects The valerianate of creosote is therefore worthy of especial mention because of its freedom from these disturbing influences Particularly in the early stages of tuberculosis the eosot will be found of great service Finally, according to the experience had with the eosot in the Gerhardt Clinic, we can say that it fulfils all the requirements of a reliable preparation which can be taken and well borne for long periods"

Dr Frank Woodbury of Philadelphia in a paper read before this Association at its meeting in Philadelphia last year reports having used the valerianate of guaiacol in full strength and diluted with liquid albolene as an anesthetic in nasal operations as a substitute for cocain, and found it to possess decided anesthetic effects slower in appearing than from cocain and not followed by secondary hyperemia The antiseptic power is also of great value in throat and nose operation In painful affections of the skin attended by hyperemia the guaiacol valerianate relieved pain and checked further pus formation Small compresses wet with the guiacol valerianate applied over the painful spot afforded almost immediate relief in neuralgias Dr Woodbury "also found the valerianate highly useful in erysipelatous conditions, in rhus poisoning, in acute and chronic rhinitis, in all inflammatory conditions associated with or producing fermentation, when administered internally"

In Langsdale's *Lancet* for March 1898 I find a report of three cases of phthisis by Dr C F Wainright, Professor of Clinical Medicine, University Medical College, Kansas City, Mo I quote Dr Wainright "In each case treated, tubercle bacilli were detected in the sputum" I venture to make a brief abstract of these clinical reports

Case 1—Man, 32 years of age With tubercular antecedents The disease of lung was of two years duration and attended with usual symptoms fever, chills loss of flesh night sweats cough, etc Upper portion of right lung consolidated and left upper lobe partially Five drops of geosot (valerianate of guaiacol) was given every four hours and continued with very little cessation for five months The patient at last report had resumed his daily occupation, was coughing very little, temperature had been normal for a month or six weeks, he had gained ten pounds in flesh, the consolidation had gradually lessened and he was apparently on the way to complete recovery No other medicines had been used in this case

Case 2—A man in first stage of acute tuberculosis Had been sick only five or six weeks The lower lobe of left lung was consolidated and there were also signs of pleurisy The usual symptoms were manifested loss of flesh, night sweats anemia, indigestion, diarrhea cough, and sometimes bloody expectoration Eosot was given commencing with two drop doses, gradually increased to eight drops four times daily in milk This was continued three months and the patient gradually improved but had not yet fully recovered

Dr Wainright "believes that this man's life was saved by the remedy, as from all appearances he would have died in a few weeks had not the eosot been given"

Case 3—A young lady 16 years of age, mother dead of tuberculosis, had two or three years previously suffered with tuberculosis of the shaft of the tibia requiring surgical treatment She developed a tuberculous process of the left apex which in four or five weeks had consolidated the entire upper lobe Guaiacol, creosote oil of cloves and other remedies were tried and had to be abandoned on account of great irritability of the stomach She was then given the eosot (valerianate of creosote) in capsules, and after four weeks when the fever had subsided, she removed to New Mexico and by the influence of climate together with the eosot which she has taken constantly she is now doing well

Dr Wainright concludes "I have reported these cases, they being typical of many cases I have been treating Am using these preparations extensively in other cases and have had uniformly good results"

The valerianates are being used at the Loomis Sanatorium for Consumptives Liberty N Y Dr Stubbert, the physician in charge in an article published in the *New York Medical Journal* April 2, 1898 says that "geosot, valerianate of guaiacol, proved an agreeable form of administering guaiacol It was found less irritating to the stomach than creosote " I have very little time to refer to other valuable uses of eosot and geosot, such as their value in overcoming irritability of the stomach as in cases reported by Dr W E Anthony of Providence, R I, where in the nausea of early pregnancy and the sick stomach of Bright's disease of the kidneys they gave prompt relief Having indicated some of the applications of the valerianates of creosote and guaiacol in clinical medicine and surgery, with one further reference I will close Surgically Dr Rieck refers to two cases of lupus of the face cured by applications of geosot and also to two cases of tuberculosis or white swelling of the knee and hip joint cured by injections of geosot into the capsule of the joint Dr Rieck also positively states that the valerianate of guaiacol cures bone tuberculosis, though not through the usual channels of absorption but by direct local application and declares that there is no question but that the use of the valerianate of guaiacol will permit of a marked extension of conservative measures in the treatment of tuberculosis of the bones and joints

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THE GENERAL PRINCIPLES OF ALKALOIDAL MEDICATION

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY W C ABBOTT, M D

CHICAGO

My purpose in coming before you is to present some of the general principles governing that form of medicinal treatment which I have denominated "Alkaloidal Medication," and I trust that I may be enabled to present them with sufficient force and clearness to make my meaning distinctly understood I am prompted to this effort by the belief that by bringing the subject before this Section of the great Association, we may correct some mistakes which my experience shows to exist very generally among the members of our profession

There is an erroneous idea abroad that those who favor alkaloidal or dosimetric medication aim to establish a distinct system of practice This is a great mistake, and a careful perusal of the literature of the subject will show that the word "system" is used by its opponents while the word "method" is used by its friends In other words, what we claim for alkaloidal medication is that it is simply an up-to date method for the treatment of disease, whereby departures from physiologic equilibrium can be controlled more quickly, safely and pleasantly than by any other known method This claim we base upon the fact that alkaloidal therapy is founded upon the use of remedial agents in a state of chemic purity, completely prepared outside the body for ready absorption, leaving practically no chemistry at all to be performed by the ailing and weakened cells

The agents we utilize are the active principles of plants—alkaloids, resinoids, glucosides and concentrations—and certain mineral preparations, all in a state of chemic purity In fact, we use the same remedies we always did, but with the "dirt left out " For convenience in dispensing, these agents are usually given in the form of granules or minute tablets, accurately divided and measured to minimum dosage, to be given at frequent intervals until effect By this means one is always absolutely safe, utilizing the smallest possible quantity of the best obtainable means to produce the desired therapeutic result How to obtain this result most speedily, safely and pleasantly should be the study of every practician of our art The use of these "arms of precision," in cumulative minimum doses, gives us such perfect control of the physiologic disturbance at the beginning of an acute disease that we promptly restore the normal equilibrium, jugulate the attack, and cure the patient before serious organic lesions have been produced This effect may be secured in all cases depending upon a controllable congestion, such as bronchitis, pneumonia, peritonitis and kindred conditions Eruptive fevers will pass through their cycle under any form of treatment, but when treated alkalometrically they do so in a mild and greatly modified form, while that class of affections of which typhoid fever may be taken as a type, may either be aborted in the early stages or, if seen too late for that, may be conducted through the regular course to a quick and safe termination, like the eruptive fevers The early control of the congestive element means much as to the subsequent course of any febrile attack, whether it be that of a specific fever or of a local inflammation

In the practice of alkaloidal therapy certain customs or basal principles have been developed, which, though not confined to this therapeutic method alone, have become, in a manner, habitual to its followers Whether or not these principles are well-founded you may easily determine I will first mention the giving of small doses, frequently repeated, until the desired effect is produced, that is, every fifteen to thirty minutes, according to the severity of the attack, until some improvement is manifest Such doses should then be given, at greater intervals, as will keep up this effect By adhering closely to this method it is simply impossible to overdose the patient In this way the alkaloids and other active principles and the most powerful mineral drugs may be used with perfect safety Here we have the first illustration of the value of the alkaloids in promoting accuracy of medication These agents are clean-cut and well defined in their effects and totally devoid of the uncertainty which hangs over the galenicals For instance, when we give pilocarpin we direct the dose to be given every fifteen minutes until sweating occurs We *know* this will be the effect, and no one who has enough intelligence to be left in charge of a patient can possibly mistake so simple a direction But if we were to give the fluid extract of jarborandi we could not know whether it would induce perspiration or dry it up, because the way it will act depends on which of its alkaloids—pilocarpin or jaborin—happens to be in excess Consequently we have to go into a long explanation to the nurse, which she is not likely to comprehend, because we do not really know just what effect the medicine is going to exert

I will not occupy your time in detailing more of such illustrations, but will merely ask you to call to mind the great number of drugs that contain more than one active principle, some of which are antagonistic to the others, as in digitalis, ergot, hyoscyamus, opium, etc Observations made in India upon the treatment of dysentery with ipecacuanha deprived of its emetin render it probable that many plants now thought to possess but one useful active principle may contain others of no less value When applied to the treatment of acute diseases, the alkaloidal method directs that active medication be instituted the moment congestion is detected, before sufficient organic lesion occurs to make a specific diagnosis possible, or in other words, it directs that we apply to acute diseases, acute or active treatment, reserving the slow or expectant sort for chronic conditions There is no such thing in rational therapy as a fixed dose Under the old methods the dose is modified by sex, age, weight, strength, habit, time, season, general condition and idiosyncrasy—each considered apart from the effect of the disease—therefore, in no instance can the dose be more than roughly approximated to the probable need The principles governing alkaloidal therapy do away with all this The initial dose is made too small to do harm under any circumstances, it is given in a shape that allows it to be dissolved and absorbed almost as quickly as if given hypodermically, and it is repeated at short intervals until the desired effect has been obtained

Here is where individual differences arising from the personal equation are equalized, one will require but two or three doses while another will require ten or twelve to produce the same effect And it is not impossible that the constant impression of small doses frequently repeated has the same power of controlling acute disease processes (a power apparently so completely out of proportion to the amount of the agent used) that a film of oil has in preventing the development of waves in an ocean storm This delicate, scientific handling of a therapeutic agent, especially in the beginning of disease processes, has its uses, but by no means does it preclude the employment of good, strong, Anglo Saxon, Dewey blows when they are indicated There is need of and room for both in the practice of medicine The researches of Bouchard and the clinical observations of thousands of physicians have demonstrated the importance of a clean alimentary canal, and also the large part played by intestinal sepsis and autotoxemia in the semeiology of most diseases Accordingly the employment of a saline laxative—preferably a chemically pure magnesium sulphate in effervescent combination—to empty the bowels, and of intestinal antiseptics to prevent microbic action, are inculcated as essential features of the alkaloidal treatment of any disease By these means the body sewers are flushed accumulations of toxin breeding debris are removed or prevented, and the kidneys are relieved from that overwork which, resulting in an irritation, constitutes such a serious menace to the organ, being liable to result in actual and perhaps fatal nephritis

One of the singular anomalies in medical belief is the persistence of the idea that the alkaloids are dangerous as compared with the galenic preparations from the same plants But little investigation is necessary to demonstrate the fallacy of this idea Infusions, tinctures, decoctions and extracts depend for their therapeutic efficacy upon the active principles which they contain, and, in view of the fact that no two crops of the same plant ever contain the same percentage of active principles, they must be present in these preparations in unknown and varying proportions Not only does the amount of active principle in any plant vary with the seasons, but it also varies with the localities in which it grows and the conditions under which it is cured and kept Therefore as usually prepared, each new lot of extract or tincture must be tested chemically or at the bedside before the physician can tell how much he should give Even the dose of today may not be that of next week, for the drug may deteriorate or, in case of insecurely corked alcoholic or ethereal preparations, may gain in strength through the evaporation of the menstrum No one can reasonably claim that uncertainty of strength adds to the safety of a dose, nor that the presence of inert matter renders it less dangerous Besides, as in the case of digitalis, some of the ingredients of a tincture or extract may hinder the absorption of the desired remedial agent, and the most valuable period for medication may thus be lost

While the old methods deal with uncertainty, the alkaloidal deals with certainty while the old asks the sick cells to do both chemistry and absorption—when the former can be at best but poorly performed—the new calls for absorption only Thus a more accurate and scientific therapy is made possible It is strange that the laity are quicker to recognize the merits of alkaloidal medication than are the majority of physicians It does not take the patient or his friends long to appreciate the wonderful potency and efficacy of the granules of the active principles, and yet many of the medical profession still fail to comprehend Occasionally one becomes imbued with the spirit of alkaloidal medication, and, astonished at the excellent results obtained, becomes inspired with a new enthusiasm and awakes to the fact that with these tools he can do better work than he has ever been able to do before No less an authority than Prof Shaller says in his "Guide to Alkaloidal Medication" "The writer has had years of experience in prescription writing, and also in dosimetry—alkaloidal medication—and he has no hesitancy in saying that his results with the alkaloidal granules have far surpassed what he was able to accomplish while using the cruder preparations of the same drugs"

Accuracy in prescription requires a corresponding accuracy in diagnosis The name of the disease is not enough There must be a distinct conception of the pathologic condition of the organs and the cells and tissues composing them We must have a clear idea of the nature of the disease and of the treatment required, and administer those remedies which are indicated by the morbid symptoms The time has come when we should discard the old shotgun prescriptions with which, through the association of a number of substances, the practitioner hoped to at least hit the mark with one of them The active principles are "arms of precision" and bear the same relation to the old fashioned galenical preparations that the rifle bears to the shotgun

The standard works on practice have little or nothing to say of vasomotor spasm and paresis, yet these are among the conditions most frequently demanding the active interference of the therapeutist Much might be said in elaboration of this subject the importance of which we are but just beginning to realize but it must suffice to say that such clear cut control is just as impossible under the old methods as it is possible and easy under the alkaloidal Alkaloidal therapy teaches that the treatment must proceed as rapidly as the disease The more acute the disease the more frequent the repetition of the dose This statement is almost axiomatic but it has been reserved for the alkalometrist to recognize it and call the attention of the profession to its importance

Although I have already referred to the jugulation of acute disease, the prime imp [illegible] of the prin ple involved warrants a further word. I can not too strongly emphasize the importance of instituting a strong, active treatment, directed to the dissipation of the prominent symptoms, at the earliest possible moment of attack, and before the danger has definitely located itself. Otherwise we may be too late, and cerebral thoracic, or abdominal symptoms may appear, the disease having the form of a fully developed meningitis, carditis, pneumonia, or gastro enteritis, any one of which must be allowed to go through all its stages unless the patient should succumb before the end. The use of the little granules has led casual observers to ask if alkalometry does not savor of homeopathy. Were it not that the question has been asked by those who ought to know better, I would not occupy your time with this matter but a few words are enough. The original idea of Hahnemann was that a remedy should be selected whose gross effects coincided with the symptoms shown by the case, and that if properly selected, a single dose would suffice for a cure. The use of the infintesimals was a later development. It was necessitated, in order to hold his followers, by the impossibility of rendering the theory universally applicable when tangible doses were administered. This was one of the earlier applications of the art of hypnotism, and the influence of his "suggestion" obtains to this day. In alkalometry the remedy is chosen that most nearly antagonizes the disease condition present, and is given in small but effective doses until the drug effect has been raised to the point where it exactly counteracts the disease-effect, a reaction to the normal is the result. An apparent application of similia may be seen in the alkalometric practice of giving such stimulants as strychnin arseniate and sanguinarin in acute diseases of the parts over which these drugs have a selective influence, but the reason for this is, that there is an antipathic effect to be secured. Disease means a lowering of vitality either functional or organic. If the vitality of the pharyngeal tissues be normal, pharyngitis will not occur. It does occur, consequently the resisting power of the pharyngeal tissues is below normal. Our grandmothers recognized this and treated pharyngitis very successfully with capsicum tea, we, more pleasantly, treat it with strychnin, sanguinarin etc., or with strong local astringents. This is clearly "antipathic" and not "homeopathic."

The principle of administering a remedy until the desired effect has been secured simple as it appears, was never satisfactorily applied, or even understood, until the present method was advocated by Burggraeve. This principle is of especial importance in the treatment of children, to whom the giving of anodynes, narcotics or antispasmodics is often a necessary but dangerous measure. No drug, however powerful, need be excluded from child-practice when employed alkalometrically; everything depends upon the accuracy of meeting the indication, and upon the gradation of the dose, all danger is removed by cumulative minimal dosage.

To the superior control which the physician exerts over his drug, to the promptness and certainty of his medication, and to the avoidance of all the ills resulting from the intermediation of the pharmacist, conditions easily possible to alkaloidal therapy, I can but casually refer. The superior facilities for treating emergencies which the physician who carries his granule case possesses over him who has only a lead pencil and a bit of paper, the difference in favor of carrying an ounce of active principle instead of eight pounds of galenical powder (to him who has to carry them), and many other practical points, must be left to you who know them as well as I. When the pathologic conditions that are present in every attack of disease are clearly comprehended, and when the effect of each medicament upon these conditions has been definitely determined, then, and not till then, will therapeutics be established upon a firm basis, and the practice of medicine become a true science. But this happy condition can never be reached until the members of our profession turn to the use of remedies distinct and uniform in their effect. And as alkalometry makes for keener study of disease states, greater accuracy in diagnosis and prescription even to certainty as to the dispensing of medicines, it is bound to win in the contest with the old, careless, slovenly, half-hearted, pessimistic methods.

HOW FAR DOES A SCIENTIFC THERAPY DEPEND UPON THE MATERIA MEDICA IN THE CURE OF DISEASE?

Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY ELMER LEE, A.M., M.D., PH.D.
NEW YORK

A large part of medical student life is spent in trying to memorize the contents of the materia medica and its auxiliaries. The drug catalogues sent gratis, and drug circulars and the spurious medical literature for advertising purposes comprise the auxiliaries. Names of drugs are arranged into classes for convenience, and later the names begin to keep company with other names which stand for disease. The hapless student works away for some years till he is prepared to answer examination questions pertaining to diseases and the drugs which it is affirmed cure them, he is then ready to be graduated in medicine, and soon takes up the practice of this acquired information upon other hapless ones, perchance to be found in some eleemosynary institution to which he is assigned for having shown himself specially fitted or judged by his ability to pass a medical examination in current theory and practice.

The ambition of the student is worthy of a better fate than the disappointment which is certain to settle upon him in the battle against disease. He hopes to succeed where others fail, for he does not yet suspect where the real weakness of his therapeutic system lies, believing that failure to cure depends only upon an imperfect individual knowledge of pharmaceuticals and their exact application. Such is the feeling at the inception of the medical career, but later on in the practice of medicine it is realized that the anticipation of a perfect understanding and the possibility of curing where others fail, was a dream.

Schools of medicine rise and fall based upon drug therapy, and the widest dissension exists among adherents of diverse medical systems. Claims are set up which alone exist in the brain of the medical reformer. It is impossible to check thought, as well as undesirable, but it is contrary to progress to accept error. It matters not who is the teacher. The materia medica is a vast collection of strange drugs and chemicals, mineral and vegetable, so put together that they form many thousands of pharmacals, for which there is little use in the arts and sciences, and if the truth were to be told, even a less need for them in the treatment of disease The force of habit perpetuates many customs that are fruitless for good, in the same way the favorite prescription continues to dominate therapeutics without a pretense in many cases of either science or reason Man is truly a creature of circumstance, physicians operate in precisely the same way as a rule The homeopathic doctor sticks to the notions of his teachers and the precepts of that system The eclectic physician yields to the influence of similar environmental conditions, imbibing a respect and love for the tenents of specific medication as arranged for him by the clever but erratic wits of some medical classifier who is taken seriously for an authority The great mass of physicians, through an incident of association, make choice of a medical school for study, knowing nothing of its essentials of doctrine perhaps, choosing it rather for the simple reason that its inducements happen to reach them persuasively Seeing then that the selection of a creed in medicine is due to some chance circumstance,,for the student can not possibly choose intelligently—for the best of all reasons, that of not having experience—friendly co operation and not condemnation would be a proper attitude toward those who follow sectarianism in medicine One physician of New York prescribes according to the materia medica on the ground that he knows not what else to do in the treatment of his cases, at the same time admitting freely that his experience teaches the uselessness of the drugs he prescribes A patient was sent from a famous health resort home to die, with a note of explanation of the treatment of the case during the stay in the sanatorium There were copies of nine prescriptions included in the notes on the case to further explain to me how the dying condition of the patient had been reached The doctor there had rained coals of literal fire upon her head The colleague at the sanatorium possesses all the virtues of fine fellowship, but is a physician emphatically detrimental to his patients He is one who stands for a class of practitioners waiting with a pharmaceutic club to crush a symptom of warning and possibly kill the patient at the same blow This is the solemn truth It is everyday experience

In another case a dangerous and extensive colitis had almost accomplished the destruction of a precious life, my counsel was requested at this stage of the case The nurse and family desired me to inspect the medicines, thinking it would aid me The list of prescriptions and proprietary cures which had been used in her case awakened my resentment against the medical teaching that made it possible that doctors could be content to depend upon the materia medica for physiologic reconstruction in the face of such adverse results The patient was made worse by her treatment, even though the mistakes were made by honest, earnest and faithful physicians The patient required a great deal of assistance to re establish her health, but she did not need medicines, either mild or strong

The study of drug therapy may become fascinating, and medical experimentation with human life as exciting as a romance, but these things are not the main object of the true physician Sound health needs for its continuance a regular exercise of the different parts of the body and adequate nutrition for growth and repair When these elemental conditions are not properly and regularly supplied, it leads to disease Then the way to cure is to right that which is wrong, using natural agencies rather than artificial The greatest success in curing the sick is to give scientific attention to such matters as belong strictly to the actual necessities of life forces The materia medica is not required to support vital functions in health and the question is How far is it useful when the body is sick? From time immemorial in the treatment of the sick curative influences have been associated with substances which are not well understood by those who take them Such long existing habits of man in his course of evolution can not be lightly set aside In some future day it is certain that drugs and chemicals will form no part of a scientific therapy This is sure to be the case, for truth is finally certain to prevail From the physical standpoint the materia medica confers no important favor upon either the healthy or sick body, but as yet the mind of the patient will not listen to the divorce between bodily cure and drug effect, though in fact, the drug actually retards health resumption

The principal influence or relation of materia medica to the cure of bodily disease lies in the fact that drugs supply material upon which to rest the mind while other agencies are at work in eliminating disease from the system, and to the drug is frequently given the credit Every physician knows this explanation is in accordance with the facts of the case Experience teaches that to satisfy the mind of the patient, harmless medicines are fully able to be a substitute for the disagreeable and dangerous ones, besides they confer the real or supposed help to nature and never an injury Sugar of milk tablets of various colors and different flavors constitute a materia medica in practice that needs for temporary use only, morphin, codein, cocain, aconite and a laxative to make it complete

If this were not literally true how could the satisfactory cures of the little pill doctors be explained? Their patients are from the most intelligent classes of society, and prefer the harmless doses The effect upon the confidence is the chief element of such slight drug treatment, while the cure is due to the inherent reconstructive forces of nature, aided by the employment of hygienic counsel

The multiplication of new chemicals, which are everywhere pressed upon the physician first, then the public afterward, is pretty conclusive that the therapy of this day is not satisfactory, or else physicians are easily imposed upon by the promises of the impossible from the latest drug claimant It also shows that the doctor is dissatisfied with his standards or loves continual experimentation If a simple natural materia medica prevailed in the profession it would enable the physician to base the cure of disease and his hope for prosperity on selling his wits to the patient rather than the drugs of the apothecary People everywhere ought, and generally will pay a greater price for sound counsel than for a prescription for medicines The strong incentive to excel in medicine is commendable, and should be based upon the desire to be a wise health-counselor, rather than a routine prescriber of chemicals, thus commanding respect and good fees This is proper and just

The drug stores are ready to supply a customer with a drug for his every symptom and for this service they are entitled to commercial profits but if the physician does no more than the druggist, the public estimate between the two will not be [illegible] of the doctor The earnings of the profession average low, and so long as practicing physicians indiscriminately prescribe every sort of chemical that is placed before them, they place themselves in competition with druggists and vendors of patent cures, while the original and independent thinker will always enjoy a greater individuality, and deserves to gather the equivalent in fees in exchange for the higher kind of medical aid in the work of a life-saving profession

10 West 49th Street

THE REGENERATION OF PHARMACY A VITAL NECESSITY OF SCIENTIFIC MEDICINE

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June 7 10, 1898

BY OSCAR OLDBERG, PH D (NORTHWESTERN UNIV)
CHICAGO

Medication is indispensable to the healing art The physician without drugs is powerless Indeed, the greater the need of the physician's services, the more urgent is, in most cases, the need of the medicine The purpose of this paper is a plea for the more faithful and effective performance of duty in the preparation and dispensing of medicines If medicine is not of importance in the treatment of disease, then let materia medica and pharmacy be abandoned But if drugs or medicines are really so indispensable that the physician can do little or nothing without them, then it must be one of the highest duties of the physician to give heed to the character of the medicine he employs This truth is apparently to a great extent ignored But it is as important to the welfare of humanity as the science of medicine itself To deny the necessity of faithfulness in the preparation and dispensing of medicine for the sick would be to put the stamp of quackery upon the practice of the physician I am not an alarmist, but it seems to me that any thinking man must, upon due reflection, be led to the conclusion that the condition of therapy and pharmacy is most deplorable and that there is a present and pressing necessity for a radical change Sensational references to adulteration, substitution and other frauds in the manufacture and sale of medicines are as ineffective as they are unwarranted That ignorance and dishonesty are met with in all pursuits is not to be denied It is not my purpose to reiterate such indictments or too add to the proofs of their truth But I assert that the vast progress made in pharmacognosy, chemistry and pharmacy has utterly failed to receive that recognition which compels obedience to its lessons There has not at any other time been a greater disparity between the store of scientific knowledge applicable to the preparation and dispensing of medicines and the actual application of such knowledge for the benefit of humanity Pharmaceutic knowledge is now sufficiently developed to prove more clearly and conclusively than ever before the necessity for the services of the trained expert in pharmaceutic work

We now realize fully the fact that without any reference to intentional fraud and criminal ignorance or negligence, medicinal substances are, from other preventable and unpreventable causes, liable to changes and variations such as render it necessary that they be selected, tested, preserved, examined from time to time, and prepared for use only by properly trained scientific-technical experts who are alone competent to determine their character and condition Whoever dispenses medicines for the sick should know of his own knowledge precisely what he is dispensing and what he is doing He should possess that special education which is necessary to a proper realization of his full duty and its faithful performance Yet medicines are now dispensed by thousands and thousands of persons who possess not the slightest knowledge and training in pharmacy And the most serious feature of this dangerous abuse is the sad fact that a rapidly growing proportion of those who, without adequate knowledge of the risks involved, undertake to provide the medicines required for the sick, are physicians This practice is indefensible except in cases where the physician is so situated that the services of a competent pharmacist are not within reach In such cases the physician can only procure his medicines from reliable pharmacists, preserve these medicines properly and renew his supplies so frequently that the chances of deterioration, dangerous alteration, or destruction are minimized or obviated

If modern pharmaceutic chemistry has taught us anything, it is that medicines do not retain their properties unchanged for an indefinite period, and that the changes liable to occur in medicinal preparations are not limited to a mere gradual decrease of potency They sometimes become nearly or quite inert, and in other cases become so changed as to acquire entirely different medicinal properties We have heard of such bold faced frauds as the manufacture and sale of "tasteless strychnin tablets," put forth to deceive those who do not know that strychnin can not be tasteless We know of proprietary preparations with published formulas which omit to mention very potent actual constituents, but which do name ingredients not contained in the preparations Against these and other similar frauds the physician has an effective remedy, he can get along without them But the practice of dispensing medicines which have not been properly examined, the identity, purity, quality and strength of which are unknown, and the age and condition of which are uncertain, must be regarded as a more dangerous evil because of the many plausible excuses which suggest themselves, and because of the fact that the only effective remedy is not so easily found or applied There are incompetent and dishonest manufacturers of pharmaceutic preparations as well as competent and honest ones There are incompetent and dishonest dispensers as well as competent and honest ones Whatever may be the proportion of ignorant and incompetent persons employed in preparing and dispensing medicines, the physicians have it in their power to do more than any other men to compel a thorough and lasting reform in the ranks of pharmacy The practice of medicine and the practice of pharmacy can not be combined without detriment to both and injury to civilization The higher the standard of medical education the higher must-be the standard of pharmaceutic education also The more a well educated physician knows of pharmaceutic chemistry the more clearly will he see the need of the services of scientifically trained pharmacists who devote their whole attention to the laboratory work demanded by modern medicine, including the preparing and dispensing of medicines for the sick And a well educated pharmacist should not only be competent to perform these services, but will be sure not to encroach upon the duties of the physician

The average drugstore is an altogether unfit place for the proper performance of such important, delicate and responsible duties as those of true pharmacy But instead of dispensing his own medicines the physician should insist upon a radical reform in the average drugstore, including the banishment of the soda fountain, cigar stand and all other excrescences Many druggists are uneducated But the remedy is a reasonable measure of compulsory education which the physicians and the public should insist upon We have numerous schools of pharmacy, and many of them are excellent schools, but not one of the pharmacy laws of the forty States that have such laws requires a single day's attendance at any such school as a prerequisite to the license to practice pharmacy, because the public and the medical profession are so indifferent as not to demand it Reputable and honest merchants, called druggists, wholesale and retail, may buy and sell drugs and chemicals about which they know little or nothing, frequently accepting and furnishing in good faith one thing for another But the only protection against such serious blunders is the faithful application of skill and knowledge by the properly trained pharmacist Druggists, wholesale and retail, may buy and sell drugs which are so old as to be unfit for use, and those who periodically and critically examine their supplies and throw away all medicines not in perfect condition can be only those whose training fits them to do this intelligently The remedy must be the just recognition of the plain fact that the pharmacist is a scientific technical expert who performs special services for which he is entitled to professional fees, and not a mere merchant dependent upon commercial competition

Without rational scientific pharmacy there can be no scientific medicine, for how can the physician learn anything definite about the action of any medicine which is not uniform? Medicinal preparations must not only be carefully and properly prepared from materials of verified identity and quality, and then standardized, but they must be protected against change, examined from time to time, and thrown away whenever they shall be found no longer perfect

The new pharmacy should not be a "store" but an *officine* It should be provided with all the necessary apparatus, reagents, and other facilities for scientific-technical pharmaceutical work, which should include not only the preparation, examination, compounding and dispensing of medicines, but also urine analysis, and other microscopic and chemic examinations required by physicians, the preparation of bacteriologic culture media, etc There should be no patent medicines and other nostrums in the officine of the new pharmacist, no tobacco, no soda fountain, no merchandise—nothing but legitimate medicines, surgical dressings and whatever else is requisite to enable him to perform his proper functions as the laboratory expert and assistant to the physician and the common chemist of the community This is no idle fancy picture of an unattainable ideal It is the reasonable and proper demand of our present civilization Such pharmacies can be maintained in every large city and in numerous smaller cities Not only that, but in places where it may be impracticable to maintain such an officine, divorced from the miscellaneous merchandizing of the average drugstore of today, there can still be a vast improvement made upon the prevailing system

Will not the members of the AMERICAN MEDICAL ASSOCIATION declare in favor of compulsory pharmaceutic education for the practice of pharmacy and for the divorcement of legitimate pharmacy from the commercial drug business, in the interest of the public welfare?

PRESENT STATUS OF SERUM THERAPY

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY GEO W COX, M D

CHICAGO

The history of serum therapy is like the history of a day—a busy day—into which is crowded the memory of a thousand conflicting incidents, all so brief and fleeting in character as to be almost forgotten on the morrow Many of us remember the "good old days" of thumb lancet and fever starvation, when serum therapy was not even a dream, most of us remember when the clouds first began to separate under the influence of scientific research, and all of us remember when the first sunbeam of actual discovery burst upon the world like a meteor's gleam It must not be inferred from this that no hint of the underlying principles of serum therapy was ever scented until the present generation, for a suggestion of them was made nearly two hundred years ago, when the Turks are credited with practicing a crude form of inoculation against smallpox The methods were so imperfect, however, and their success so limited, that the practice was allowed to die out, and many decades passed before Jenner revived the idea and applied it in the form of vaccination Although another half century rolled by before the next great advance was made, it would be very unjust to the immediate followers of Jenner to say that they were content to confine the principles of vaccination to the prevention and treatment of a single disease Many theories were advanced by them—the chief one being the once popular but now almost forgotten isopathic practice of the Germans—and much experimentation indulged in, but their gropings were wholly in the dark until a practical application of serum therapy was made possible by the first important discovery of Louis Pasteur

This great scientist, while still young enough to be addressed as "*mon cher enfant*' by Biot, the discoverer of the phenomena of polarization, taking molecular asymmetry as a cue, had demonstrated the power of the tartrates under certain conditions to deflect polarized light This led him to the immediate study and speedy discovery of the true cause of fermentation—the real beginning of Pasteur's many and varied achievements Then followed in rapid succession the numerous and useful ideas now so familiar to every student of medicine, including the explanation of the cause and nature of infection of contagion and of the principles of prophylaxis and cure by vaccination He also determined the evolution of disease germs, both in and out of the living organism and finally rounded out his brief but fruitful scientific career by giving to the world the new treatment for hydrophobia Thus by Pasteur was laid the foundation upon which the superstructure of serum therapy is now being erected I mention this point in simple justice to the inventive genius of a great man

All great important discoveries through their greatness, soon become so popular in the public mind that their originators are quickly forgotten W[illegible] of the tubercle bacillus, the telephone and the diphtheria antitoxin as commonplace affairs that had been known from the most ancient times, and rarely stop to think of the men who spent years of earnest toil in their discovery and development Richet has truly said that the first course medical student of today is perfectly familiar with many phenomena which the wisest sages of fifty years ago could not understand Lavoisier, Jenner, Galen, Celsus and Hippocrates all knew that fermentations existed and were quite familiar with their consequences, but they had no more conception of their causation than we of the present day have of the origin and proximate character of electric force It was not until the year 1857 that the bacterial origin of fermentation was made known and means devised by which it could be produced, controlled or prevented at will The world of commerce began to be enriched at once, for the wine disease, the beer disease and the silkworm disease each in turn received the attention of the young French physicist, with the result of placing them all under easy control This would seem to be glory enough for one man, and it seems strange that anyone would bid for more, but the highest reward was yet to come in the application of the same theory in regard to the causation of disease in man Pasteur was not a physician, and this makes it all the more remarkable that he should have been singled out by the fortunes of destiny to lead the hosts of medical bondsmen into the light of etiologic, pathologic and therapeutic sunshine Thus, while the whole world acknowledges Pasteur as the "father of bacteriology," as it is known and practiced today, through this relationship he must forever be designated as the *grandfather* of serum therapy The question naturally arises whether the present progeny is of sufficient merit to be considered a worthy offspring of so famous an ancestry

There is a brief, uncertain period in the life of every youth, as well as in every young scientific problem, when the weathercock of prophecy seems to hesitate between the points of great usefulness and utter worthlessness It is the purpose of this paper to show that serum therapy has passed this period of uncertainty and assumed a place among the staples of rational therapeutics It will be noticed that under the general term of serum therapy I include medication by toxins, antitoxins, blood serum and vaccins—all of which are the outgrowth of the germ theory of disease and the direct result of applied bacteriology My definition is, therefore, intended to be practical rather than scientific, and I trust the importance of this phase of the subject will be permitted to outweigh technical inaccuracy In presenting the claims of this new system it is necessary to first point out its great value as a diagnostic agent The incipient stage of some diseases, tuberculosis for example, is so mild and insiduous that its early detection is impossible by the usual methods, but by means of a bacterial product it may be disclosed, both in man and in the lower animals, even before its location in the organism can be definitely determined The advantages of this are self-evident In the human subject it permits appropriate treatment to be instituted before chronicity and complications render the case hopeless, while in the case of cattle it favors isolation or such other disposition of the stock as will insure the owner against pecuniary loss If, therefore, serum therapy had nothing else to recommend it, its value in the early diagnosis of two such diseases as tuberculosis and typhoid fever would insure it a permanent place in the list of esteemed remedies But its worth is not measured by its diagnostic power alone Its well known action as a prophylactic in some diseases is of the greatest moment, while its curative power in others can be accurately described by the one word "specific "

In the consideration of serum therapy in its practical application to the treatment of diseases, it seems both natural and fitting that the one to be mentioned first and with which all comparisons should be made, is that relentless and loathsome enemy of childhood

Diphtheria —To the vast majority of the thinking physicians of today, the mere mention of diphtheria is suggestive of the remedy par excellence in every civilized land—antitoxin To be sure, there is yet to be heard an occasional denial of the most absolutely demonstrated facts in the common affairs of life It is not necessary to burden you with a long list of figures and statistics relative to the grand, onward march of success in the antitoxin treatment of diphtheria The evidence is so overwhelming in its favor, and the few failures and accidents so easily accounted for that but one conclusion is possible to the man whose senses are not wilfully closed to investigation and truth

Tetanus —Early in 1894, Carle and Rattone demonstrated that tetanus was an infectious disease, capable of being transmitted from man to the lower animals by inoculation, but it was reserved for Nicolaier to discover the bacillus of tetanus, a few months after the publication of Carle and Rattone's experiments The bacillus itself, as well as the disease it creates, was extremely difficult to study, and while Brieger made the first important advance in the discovery of tetanin in 1896, it was three years later that Kitasato first obtained the germ in pure cultures and gave to the world the first description of its biologic characters Since that time scientists in all parts of the world have constantly vied with each other in the attempt to find a remedy that would destroy the germ or its ptomains, and thus afford an efficient means of combating the distressing and fatal disease —tetanus Naturally they turned to serum therapy for a realization of their hopes, and with what success their efforts have been crowned may be told in a few words Blood serums are peculiar in their action, and but few of them are perfectly understood Some of them, as the antidiphtheritic serum, exert their influence solely upon the ptomains, making them true antitoxins, while others, like the antistreptococcic serum, perform their work by destroying the germs themselves and thus putting a stop to the production of toxins Others again, such as the antitetanic serum, do not seem to have much, if any, effect upon either germ or toxin, and yet from indisputable clinical evidence they possess an immense therapeutic value Just in what way their good results are brought about has never been determined Professor Roux of the Institut Pasteur has suggested that their action is of a protective character and is directed upon the tissue cells, fortifying them against tetanin, or the still more deadly toxalbumin described by Brieger and Frankel This explanation clearly accounts for the wonderful immunizing properties known to exist in the antitetanic serum, and is the strongest possible appeal for the use of this agent as a preventive Not a single case of tetanus has ever developed after an adequate prophylactic dose of a reliable antitetanic serum was given This fact, demonstrated in hundreds of experimental cases at the Institut Pasteur three years ago, has led to the adoption of a routine practice of immunization by surgeons in places where tetanus is known to be endemic Quite recently a physician told me that he had just used a prophylactic dose of antitetanic serum after a rusty nail puncture, and the results were so satisfactory and his patient so free from apprehension during his illness that he should continue the practice, even if only for its moral effect

The curative properties of antitetanic serum are negatively positive, but not positively negative It cures—or more strictly speaking, it leads to recovery—by preventing any further invasion, but it does not cure the tetanus already existing The only reasonable conclusion, therefore, is that the antitetanic serum should be used frequently at the first suspicion of an attack of tetanus, even before invasion if possible, or at least while the existing poison is not sufficient to cause death While the serum treatment of tetanus is not all that could be wished for, nor all that we expect to see it in the future, as men and methods and means arise for its improvement, yet as we have it today it is by far the most successful treatment at our command In Scotland, where statistics have been most carefully kept, the mortality has been reduced from the former frightful figure to about 35 per cent In the United States during the last two years, according to Dr Frederic S Dennis of New York, who has carefully investigated the subject, the mortality figure is even a shade lower still Five cases of trismus nascentium were reported last year as successfully treated with the serum—cases which previous to the days of antitoxin were almost uniformly fatal

The experiments of Wasserman and Takaki, based upon Prof Ehrlich's theory of the formation of antitoxins, should be remembered for the sake of future investigations in the general system of serum therapy At present, however, they are interesting only from the laboratory standpoint and are absolutely without practical therapeutic value More recently still, considerable local enthusiasm was excited in Rome, where Prof Bacelli's treatment of tetanus with phenic acid was applied in thirty cases with but one death This showing certainly entitles the method to further study, for while such a result in a single series of cases might be purely coincidental, the truly scientific mind should always stand ready to push investigation to its utmost limits when there appears the semblance of a cue The very latest, and what appears to be the most reasonable, theory yet advanced concerning the action of the toxin and antitoxin of tetanus, is that of Roux and Borrel, in which they express the belief that the toxin attacks the nerve centers with such rapacity that the antitoxin, when administered hypodermically, does not reach the seat of destruction in time, or in sufficient quantity, to overcome the evil They reasoned, therefore, that if the antitoxin could be applied directly to the cerebral substance, it might reach the vital point by rapid diffusion and be much more effective In demonstration of this theory they tetanized seventy-nine guinea pigs for their first experiments Forty-five of these received intracerebral injections of small doses of antitoxin and thirty-five of them recovered Seventeen were treated with much larger doses by the hypodermic method, and of these only two survived The remaining seventeen were not treated with antitoxin and they all died So far this method has only been applied in one case in the human subject In this case the operation was entirely successful and the patient made a speedy recovery

Tuberculosis —Quite a number of toxins antitoxins and blood serums have been introduced for the treatment of this disease, and with results that should be regarded as most gratifying, inasmuch as they have not all been absolute failures The original tuberculin of Koch, and the improved product known as "T R", are admittedly most dismal failures as far as curative properties are concerned but in spite of this they have wrought an excellent service in directing and stimulating investigation, as well as being of great value as diagnostic agents Of the newer remedies of this class, as well as of the antitoxins and blood serums directed against the tubercle bacillus and its ptomains, the members of this Section will be fully informed in specially prepared papers relating to this subject It remains, therefore, for me to discuss some of the complications of tuberculosis, and leave the consideration of the tubercle bacillus to the distinguished gentlemen who are making a life study of it and its terrible consequences It has been so often repeated by various competent observers that simple, uncomplicated tuberculosis is easily curable, that it may seem strange to the casual reader that we hear of so few cures being made, The reason is that uncomplicated cases are rarely met with in actual practice the physician's services as a rule not being demanded until the disease has progressed far beyond the initial stage Even then it is frequently found that the tubercular infection is the least consequential of the existing lesions It is a well-known fact that unless tuberculosis is accompanied by some other pathologic condition, it usually remains localized for a long time, and the destruction of tissue from it alone is exceedingly slow It is when other micro organisms make their appearance that rapid tissue changes take place and the patient sinks quickly to the point of dissolution To stop this process of rapid necrosis in the vital organs should be our chief aim, and in order to do so, it were better for us to forget for the time being that the tubercle bacillus has anything to do with the case, and give our entire attention to the organism that is doing the actual damage In short rid the case of its complicating influences first, convert it into a condition that is admittedly curable, and then direct our energies to the original disease Can we always do this? Most assuredly we can not—but we can always try, and inasmuch as it is impossible for us to foretell the result of our efforts it is clearly our duty to give our patients the benefit of the attempt We will succeed in a certain number of cases we will probably fail in many more, at least until effort and experience shall combine to suggest improvements in theory, methods and practice In the light of past experience and present indications however it is reasonable to predict that if tuberculosis in its various forms and complications is ever to be placed in the category of curable maladies by means of medication it will be accomplished by some method within the realm of serum therapy

Snake bite —The antitoxin used for the venom of poisonous reptiles is as surely specific in its [illegible] any remedy known to medical science [illegible] drawback to its employment [illegible] curing the serum at the r sorption and action of the poison are so rapid that death is likely to result before the remedy can be obtained but where it is possible to apply the serum within eighty or ninety minutes after the reception of the sting, no fears need be had as to the outcome of the case The limitations of the application of the serum as a curative have led a number of investigators to seek for a reliable prophylactic or immunizing procedure, by means of vaccination or otherwise Chief among such experimentors are Fraser and Phisalix, who have made exhaustive researches, and claimed decided success with such substances as bile, glycocholate of sodium, cholesterin and the tyrosin of certain vegetables Calmette, however, whose name will always be associated with the antitoxin of snake venom, has shown conclusively that these substances only furnish a weak and transitory immunity by means of cell stimulation, the same as may be induced by a large number of others, and in no wise act as true antitoxins So for the present, at least, the only known safeguard for persons living in regions infested by poisonous snakes is to make sure that a supply of the antivenomous serum is kept within easy reach

Erysipelas —The writer's experience in the treatment of this disease with blood serum, has been comparatively limited, but it has been so uniformly successful in a number of trying cases that he can not help thinking that if failure should be reported it must be due to the employment of faulty serum or some equally avoidable cause Marmorek's serum is the one indicated in all stages of the disease, and a number of cases reported by me at the annual meeting of the Illinois State Medical Society on the 17th of last month most conclusively show the immunizing power of the serum, as well as its specific action as a prophylactic and curative agent The number of cases reported as successfully treated by the serum method already extends into the thousands, as every one interested in the collection of statistics can testify

Yellow fever —With the single exception of tuberculosis, there is probably no disease in which the bacteriologists of the Western hemisphere are more intensely interested, at the present time, than yellow fever We are just at that critical period of anxious expectancy when any moment may witness the end of all dispute as to the question of causation, and the true germ of the disease be established beyond all cavil And while we are thus waiting for the settlement of this one point, which we confidently hope will enable us to formulate a remedy that will place this dread disease in the column of preventable and curable maladies, it is fitting that we should allow our minds to dwell for a moment upon the names of those most intimately connected with this work Among those in foreign lands, that of Sanarelli stands out with conspicuous luster, while in our own country we have a full half dozen of equally earnest and equally intelligent workers Without detracting in the least from the fame of any of these, if asked to mention the man above all others, native or foreign, who is entitled to the palm for pioneer work in this field, for long, untiring and intelligent effort, as well as for modesty in presenting his just claims, we would unhesitatingly breathe the name of the present distinguished president of the AMERICAN MEDICAL ASSOCIATION, George M Sternberg Placing the serum treatment of yellow fever upon the same rational and scientific basis as that of diphtheria and other infectious diseases, then, we can not expect the remedy to precede a knowledge of the etiologic germ Whether this shall eventually prove to be the bacillus icteroides or the bacillus "x" (Sternberg), if these are not identical, or some micro organism yet to be discovered, remains to be seen In the meantime the Sanarelli serum should be given a thorough trial, as pronounced success or pronounced failure would materially assist in settling the question of etiology

Typhoid fever —So far no serum has been prepared that can be implicitly relied upon as a cure for this disease, although several attempts have been made The most promising one, at this time, is that of Prof Chantemesse of the University of Paris, who claims to have had marked success in a number of recent trials—noting rapid defervescene and decided improvement in the general symptoms He thinks, with a little more time for investigation and opportunity for the improvement in the preparation of the serum, it will take rank with those of well-established therapeutic value In the matter of diagnosis, however, it is quite different, the Widal test being now regarded as a perfectly reliable and practical method for the busiest practitioner It is possible to determine by means of this test, not only the very early invasion of typhoid fever, but also whether an individual has had the disease, even after the lapse of many years, in some cases The test is of especial value on account of its accuracy and the simplicity of its technique

In the brief space allowed for the discussion of this subject, it would be impossible to give the details of all that has been accomplished in the application of serum therapy to the various diseases and conditions in which it has been tried, however interesting it might be to do so Up to this time, something more than a score of diseases have been subjected to treatment by this new method, and, as would naturally be expected, with varying success In addition to those already mentioned, these include among others, pneumonia, influenza, rheumatism, cholera, cancer and sarcoma, pertussus, leprosy, gonorrhea, chancroid and syphilis, bubonic plague, anthrax, chorea and puerperal septicemia A few of these deserve more than a passing notice, both on account of the prevalence and gravity of the diseases and the promising outlook for the early discovery of efficient remedies Yersin and Haffkine have already succeeded in greatly mitigating the ravages of the bubonic plague, while numerous investigators have given us encouraging reports in regard to the probable successful management of leprosy in the near future Sarcoma has undoubtedly yielded in a number of instances to the influence of the Coley mixture, while Asiatic cholera, the depopulating scourge of many nations and of all ages, seems destined to lose its terror through the beneficent agency of serum therapy

Pneumonia —Since the discovery of the bacillus of Friedlander in 1883, a host of bacteriologists, including Sternberg, Flügge, Talamon, Fränkel, Netter, Belfanti, Gameléia and many others, have studied this germ and the micrococcus pneumoniæ crouposæ with great diligence, in the hope of arriving at definite conclusions in regard to pneumonia and its proper treatment It is generally found that mixed infection exists in this disease, and for this reason it will be necessary to pursue investigation and wait with such patience as we can command for the perfect success that we hope to meet Serums have already been used, and in some cases with gratifying success Klemperer reported six cases with excellent results, and his experience has since been duplicated by Mosny, Bonne, Emmerich and Pansini During an epidemic of pneumonia in the city of Naples, in the month of January of the present year, Pane treated nine cases of a very grave type with antipneumococcic serum The effect of the remedy is reported as decidedly good in every case, and but one of the patients died

Puerperal septicemia —When caused by the streptococcus microbe, as it is in a very large proportion of cases in this disease, is no longer the frightfully fatal affection of bygone years, for it yields in a most gratifying manner to the antistreptococcic serum of Marmorek

Streptococcal infection —If this condition meant but a single disease, however severe, instead of a number of distinct maladies and a multiplicity of complications, its presence would not be regarded with more concern than that of tetanus or snake bite But in all probability a score of such affections as these would fade into insignificance in comparison with streptococcal infection, if the full measure of its destructive virulence were known We find it in all kinds and conditions of disease, sometimes as the sole pathogenic factor, but more often as an insidious and insinuating "co-respondent" adding dangers to those inherent in the original malady, or even supplying them where none existed before Already the study of the streptococcus microbe has been productive of much valuable information and a number of diseases can be traced directly to its presence, but inasmuch as its pathogenetic power is known to vary from absolute innocuousness to the most destructive virulence, there must yet remain much to be determined The wide variation in its pathogenesis, its unapproachable extent of distribution, and the unusually attractive field it presents to the microscopist, all combine to make its study both fascinating and instructive Much confusion has been caused by the more or less arbitrary subdivision of the streptococcus into a large number of "kinds" or "species," bestowing such names upon each supposed new discovery as the fancy of the investigator would dictate Koch, Marmorek, Widal and other high authorities, however, do not recognize any of the classifications thus far made, but regard all the so called forms of the germ as the offspring of a single parent microbe, and attribute its varying pathogenic effects to such conditions as location, temperature, the kind and health of tissues involved, presence or absence of other micro organisms, etc Just why or how the same germ should cause convulsions in one animal and paralysis in another has never been explained, and possibly never will be, but as long as the same remedy, by equally mysterious methods works a cure in both, we need not trouble ourselves about the pathogeny Erysipelas, phlegmon and most cases of puerperal septicemia are caused by the streptococcus germ, and their certain and rapid cure by the proper use of Marmorek's serum is a fact so often demonstrated that it seems almost unnecessary to repeat the assertion

However important it may be to know we have so efficient a remedy for these diseases it is still of greater interest to know that the same remedy is equally successful in controlling certain complications that are more or less constant in many infectious diseases, including scarlet fever, diphtheria and tuberculosis Scarlet fever is probably always complicated by streptococcal infection and in the experience of many close observers in Europe and America, when Marmorek's serum is administered early in the attack the disease is greatly modified, runs a mild course and the patient recovers without any disagreeable sequelæ Streptococcal invasion is likewise the most constant complication attending cases of diphtheria, and no doubt many of the fatalities reported are due to this cause, and not to the toxemia produced by the Klebs-Loeffler bacillus, which may have been already overcome by the use of diphtheria antitoxin Mixed infection should be suspected and looked for in every case of diphtheria, and when found a mixed treatment resorted to as early as possible In this way the present extremely low mortality rate in this disease may be still further reduced, for without doubt nearly all of the fatal cases would show mixed infection if the proper tests were applied, and many more recoveries would occur if the proper (mixed) treatment was used

It would be gratifying to me to hold a clinic at this time and present a number of tuberculous subjects, which have come under my observation during the last two years They would all be cases of pulmonary tuberculosis with mixed infection, the predominating complication being of the streptococcal type In at least two of these cases the complicating factor was so overwhelming in extent and severity that I am tempted to refer to them as cases of *streptococcal infection complicated by tuberculosis* They had all the classic symptoms of well-advanced pulmonary consumption, and repeated examination of the sputum revealed the presence of the bacillus of tuberculosis, but always in small numbers They had stubbornly resisted anti tubercular treatment for many months, the direction of their progress was continually downward, faith had entirely deserted them, and hope was rapidly going They were even denied the questionable consolation afforded by the promise of a lingering invalidism, for their physicians had named the limit beyond which they could not survive, and the date was almost reached Microscopic examination of the sputum had heretofore been directed solely to the tubercular aspect—now it was made with reference to the complications Streptococci in vast numbers were found A complete change in the treatment was instituted, which was speedily followed by a most gratifying change in condition All measures having reference to the tubercular infection were suspended and concentrated effort given to the streptococcal invasion Marmorek's serum was given in 10 c c doses every alternate day until the streptococci all disappeared By this time there was such an improvement in the general condition that hope was immediately revived and the patients put back upon the former treatment One of them has remained constantly under my care while the other on account of distance from home, was returned to her former physician In both cases the improvement continued and now, after a lapse of nearly twenty months since the Marmorek's serum was stopped my patient reports himself in better health than he has been for many years Although there still remains a suggestion of tubercular toxemia it is too slight to cause detention from business and there has been no return of the streptococcal invasion

Aside from the many flattering re[illegible] from all quarters of the [illegible] of serum therapy as a principles, and personal application of its methods, have convinced me that its vaunted worth has not been overstated. It is based upon reason, common sense, and truly scientific grounds, and its future development can not fail to shed untold blessings upon suffering humanity.

2945 Groveland Avenue.

SOME SOURCES OF FAILURE IN TREATING LACHRYMAL OBSTRUCTIONS.

Presented to the Section on Ophthalmology at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY LEARTUS CONNOR, A.M., M.D.
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Accepted methods of treating lachrymal obstructions succeed in some cases but fail in others, for reasons not always apparent. Bearing on the sources of failure are the following suggestions, grouped under four heads: Constitutional disorder, eye strain, nasal disease and faulty technique.

First.—It is evident that if lachrymal obstruction be caused by a chronic constitutional disease, the best planned and most skillfully executed operation will come to naught, for surgery never cured syphilis, gout nor rheumatism, and yet observation shows that this obvious truth is not infrequently overlooked. Spyhilitic infection may diplace the puncta, obstruct the canaliculi, induce a dacryocystitis, locate a mucous patch about the mouth of the duct, cause a periostitis, endostitis or subperiosteal gumma, adjacent to or necrosis of the bony wall of, the duct, or hyperplastic processes of the bones themselves. These lesions may be found in any stage, from insignificant to gravest, singly or combined, but it is evident that operative treatment of obstruction due to any of them, would be useless unless accompanied by constitutional. More frequent though less amenable to general treatment are lesions of the tear passages, induced by gout or rheumatism or rheumatic gout and involving the mucous, fibrous or bony tissues. Their management by purely operative procedures is quite as futile as surgical operations on deposits of these dyscrasia in other portions of the body, if disassociated from suitable diet, exercise, baths and general medication. Tuberculous and scrofulous diseases do not always spare the lachrymal passages, and one who would do the best for every case of epiphora and record the fewest failures will not overlook the possibility of their presence under the most unexpected conditions. These are the most common chronic constitutional diseases, likely to produce lachrymal obstruction, though others may not safely be neglected. It has occurred to the writer to observe so many failures from exclusive operative measures which subsequently recovered under appropriate general treatment that he is compelled to emphasize the latter.

Second.—It is generally accepted that eye strain causes or may cause conjunctivitis and blepharitis, that blepharitis and conjunctivitis may induce inflammation of the lining membrane of the canaliculi and sac and lachrymal obstruction, so the conclusion is inevitable that eye strain may cause lachrymal obstruction. In its earlier stages, epiphora from eye strain is readily cured by the treatment of the diseases of the conjunctive and lids, but like the latter, it returns with subsequent eye strain, while the correction of the eye strain is followed by permanent relief of both disabilities. Less happy is the exclusively operative treatment of lachrymal obstruction from eye strain, as the mutilation of the passages added to the eye strain renders the case even worse.

It is objected that eye strain is not always attended by epiphora. Quite correct, neither do all cases have blepharitis or conjunctivitis; nor would all of a thousand persons have pneumonia if suddenly plunged into an ice cold stream, but some would. Unquestionably, there are conditions in certain individuals, which direct the disturbance of eye strain to the lachrymal passages, that are absent in others. Among these may be noted anatomic deformities of the bony walls of the duct. It is a clinical fact that lachrymal obstructions are more frequent in persons with a very broad or a very narrow-based nose. It is an anatomic fact that such faces have the bony wall of the duct flattened either anteriorly or laterally, so that the actual caliber of the passages is diminished and the more readily obstructed by morbid agents acting upon their lining membrane. It is not improbable that other congenital abnormalities determine the eye strain toward the lachrymal passages and cause obstruction. Further, it is not impossible that such deformities in some cases render failure inevitable from any or all treatment. We can lengthen a shortened leg by a mechanical contrivance, correct ocular defects in the shape of the eyeball, by lenses, but we may not hope to make round a bony lachrymal duct, greatly flattened in any direction.

Is it inquired how eye strain causes epiphora? Answer may be made: 1. By direct extension of disease from the conjunctiva and edges of the lids, to the canaliculi and duct and sac. Retention of microbes in the lachrymal lake enables them to manufacture a larger volume of debris, as well as augment their own armies, conditions favorable for causing disease of the tear passages. 2. By disturbing the position of the puncta, through muscular action of the lids in efforts to overcome the refractive defect. 3. By interfering with the natural action of the lid muscles in propelling the tears through the canaliculi and sac to the duct. The clinical proof, that eye strain causes epiphora, and its relief stops it in certain cases, is abundant, but the scope of this paper does not permit of its presentation. If seen early in their course no other treatment than the relief of eye strain is needed, but later, when strictures have formed, or dacryocystitis, or other serious complications, surgical interference must be added to the removal of the eye strain. The practical point is, correction of eye strain will remove lachrymal obstruction in some cases and benefit all.

Third.—Some failures to relieve epiphora are due to the overlooking of a morbid condition of the nares adjacent to and involving the opening of the duct into the nose. Clearly it is quite as essential to examine the terminal as the beginning of a continuous tube if we would remove all obstructions. The variety, frequency and gravity of nasal disease render it surprising that the duct is not occluded with greater frequency than is shown by clinical observation. We can not discuss the nature of the morbid condition of the nares or the means for their removal, but their importance is unlikely to be overestimated. Ophthalmic surgeons who do not treat nasal diseases need to be constantly on their guard to detect their presence, and refer the cases to one able to intelligently care for them, lest they unduly increase their failures in treating lachrymal obstructions The clinical evidence is abundant, showing that failures to relieve epiphora by lachrymal operations have been made successes by rational treatment of nasal diseases

Fourth Some failures in treating lachrymal obstruction are due to faulty technique While there are some points of this technique on which ophthalmologists differ, its general principles and most details are universally accepted Time admits only a note respecting a few points of faulty technique

1 If a canaliculus be so divided that the gap in its walls opens to the air, instead of pressing against the eyeball within the lachrymal lake, it is quite clear that epiphora will remain unchecked, and further, the chances are that it will always continue thus All operations upon canaliculi, puncta or sac should be such as to leave the opening of the upper end of the lachrymal tube within the lachrymal lake A syphon will not work unless its upper end lies beneath the surface of the fluid it is expected to drain The violation of this mechanical law renders a lachrymal operation nugatory

2 Another fault in the technique is the extensive division of the lachrymal passages, when a slight one would have accomplished the desired end Thus if the puncta be slightly everted, and so remains after removal of all disease of the conjunctiva and lids, it is quite unnecessary to slit the canaliculus extensively Long since, Dr Prout showed us that in such cases the epiphora could be effectually stopped by operating upon the vertical portion of the canaliculus alone Sometimes a simple division of the inner wall sufficed, at other times a V-shaped piece was removed from the inner wall, the top of the V being at the puncta, at other times at the base of the vertical incision, a horizontal bit of conjunctiva was removed, the contraction of the scar on healing of the wound pulling inward the open mouth of the canaliculus, so as to place it in contact with the eyeball and within the lachrymal lake If the horizontal portion of the canaliculus calls for division, operation should be limited to the least that will accomplish the end sought, otherwise failure will be courted when success was in sight

3 Another fault is the election of the lower canaliculus so frequently Unquestionably, there are cases in which choice of the lower canaliculus is imperative as when stricture lies in its course, or at its junction with the common canal, but otherwise division of the upper canaliculus affords better chances for relieving an epiphora As the lower canaliculus is larger and better located for drainage, its being left intact is important Operations upon the upper canaliculus render it easier to enter the duct by either probe or knife, because the angle to which these instruments must be elevated is smaller, hence the sac is less injured by the knife, the lining membrane less twisted or torn by probes, the points of syringe or canula more readily brought in line with the direction of the duct, and so its surfaces more easily cleansed and treated

4 Undue violence is responsible for some failures in treating lachrymal as in urethral obstruction Too great or misdirected force in using probes complicates subsequent treatment, if it does not defeat its object by tearing the lining membrane, injuring the periosteum or making false passages While these accidents may not always be avoided by the most tactful operator, because of the nature of the obstruction and fragility of adjacent tissues, they will be reduced to a minimum by exact diagnosis, and a self control that bides its time to most safely attain its object

5 Timidity in using force adequate to dilate strictures is a source of not a few failures This may spring from uncertainty as to the size or direction of the passage or the resisting power of the stricture If it be definitely settled that the point of the probe be in the axis of the passage, and that there be an opening in the stricture very considerable force may safely be employed Aside from the purely personal equation of the operator, failure is avoided by accurate diagnosis and by the use of such force as is needed for each special case

6 Rigid ideas respecting the shapes and sizes of probes diminish the chances of success in overcoming lachrymal obstructions Clearly, one who sees no advantage under any circumstance, in the use of probes larger than Bowman No 6, will not relieve a case that calls for Theobald No 16 or he who thinks that only the largest probes will avail aught will fail in the best results in a case which needed Williams No 5 or he will err who uses any probe, when the local application of hot water and the pumping through the lachrymal canals by Gould's method, of aseptic or antiseptic fluids, suffice to remove the obstruction

Doubtless cases have best been treated by each different kind of probe and each size so that he is wisest who selects his probe because of its fitness for a particular lachrymal canal rather than attempts to make the canal adapt itself to his probe the shoe ought to be made for the foot, rather than the foot made to adapt itself to the shoe

Necessarily, small probes only are admissible through the undivided canaliculus larger ones when the sac must be opened, and it be desired to make the duct large enough for the flow of tears by simple gravity from lachrymal lake to nose for this latter purpose Theobald's probes have served my needs admirably Williams probes with olive shaped points and small flexible shanks have an especial value in cases of moderate strictures, calling for little pressure to induce absorption, and for locating and defining the same

They have an admirable facility in gliding about obstructions with the least injury to adjacent structures Bowman's probes occupy an intermediate position, and are especially useful in promoting absorption in moderate sized ducts Failures will be less frequent, as each operator uses common sense in the adaptation of his probes to the especial features and different stages of each case

SUMMARY

It is urged that fewer failures will attend the treatment of lachrymal obstructions, if the operator in each case

1 Recognizes and treats the chronic constitutional disorder which caused the obstruction

2 Removes all eye strain

3 Makes sure that the nares adjacent to the opening of the lachrymal duct are rendered healthy

4 Perfects himself in a faultless technique

103 Cass Street.

The yellow fever ravages in the South this [illegible] once more emphasizes the demand Let us have a Department of Public Health'

TREATMENT OF CHRONIC SUPPURATIVE DACRYOCYSTITIS

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo , June 7–10 1898

BY A E PRINCE, M D
SPRINGFIELD ILL

In response to an invitation from the Secretary of the Ophthalmologic Section of the AMERICAN MEDICAL ASSOCIATION, I send the following brief paper, the purpose of which is to present the method I employ for obliterating the lachrymal sac

During the earlier years of my practice I tried medication, irrigation and large probes, but the percentage of relapses was so great that I finally discontinued endeavoring to preserve the patency and restore drainage in all cases of chronic suppurative dacryocystitis For the benefit of those who conclude, in any given case, to obliterate the lachrymal sac, rather than to attempt any of the various plans offered for the preservation of drainage, I here offer a very simple, and at the same time a very satisfactory method of dealing with this question, which has not disappointed me in its results for several years My procedure is as follows Introduce a probe through the canaliculi into the lachrymal sac Direct the point toward the skin so that the point of pressure may be discovered at the surface (Stevens' tenotomy hook serves well for this purpose) Incise the skin over the probe, and enlarge the opening upward and downward the entire length of the sac Lay open any sinuses which may exist Apply a saturated solution of monochloracetic acid by means of a cotton applicator over the exposed surface of the sac and sinuses Pack the wound with iodoform, and keep it packed until healing is complete The iodoform remains in situ, and prevents the cutaneous wound from healing before the bottom is closed

I have tried excision of the lachrymal sac and application of other forms of caustics, and the results in comparison have led me to prefer the monochloracetic acid to any other agent I have packed with gauze, and the result has not been so satisfactory

For years I have used pulverized iodoform to pack the cavity of the globe after evisceration, and the behavior of pulverized iodoform in this cavity led me to believe that it would serve an equally good purpose in packing the lachrymal sac

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THE USE OF LARGE PROBES IN STENOSIS OF THE LACHRYMAL DUCT

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo , June 7 10 1898

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In the presentation of this subject no reference is made to such mild cases of lachrymal stenosis as can be relieved by probing the canaliculi with small probes, followed by syringing, nor to cases dependent upon closure of the lower opening of the duct by pressure from the inferior turbinated body The class to which I desire to call attention is that of true stenosis of the lachrymal duct, in which mild measures and nasal treatment are of no avail

In order to pass a large probe down the lachrymal duct it is first necessary to slit a canaliculus It is very important that the canaliculus of lesser function should be selected The punctum and canaliculus of the lower lid unquestionably have greater function in draining the palpebral aperture of fluid than have the corresponding parts in the upper lid Once the canaliculus is slit and its punctum destroyed, its suction power is lost, and it ever after acts in an indifferent manner If the lower canaliculus is slit, probes passed and the duct otherwise treated until it is thoroughly patent, this eye will never again be free from epiphora when exposed to inclement weather On the other hand, if the upper canaliculus is chosen as the means of gaining access to the lachrymal duct, it will be found that after the passage is rendered patent the lower canaliculus will be able to keep the eye free from tears I deem this point of great importance and believe that the many failures in the cure of lachrymal duct stenosis are due to the destruction of the suction power of the lower canaliculus

If probing the lachrymal duct for the relief of stenosis is to be of any advantage we must observe the same rules as in treating stricture of the urethra The duct must be dilated *ad maximum* It is my custom to pass, at the first sitting, the largest probe that can be introduced The canaliculus in the upper lid is slit with a Graefe cataract knife, with the aid of a Bowman's grooved director The director is passed through the canaliculus, then turned to the vertical and passed to the bottom of the lachrymal sac The Graefe knife is used with the director in the vertical position The director is now removed and a graduated probe introduced, to determine the size of the duct If a marked stricture is encountered, an Agnew's knife is passed down the duct and the stricture cut If no stricture is found, the Agnew knife is not used The size of probe that the canal will admit can be fairly well judged by the passage of the graduated probe I find that it is rarely that a No 10 Theobald probe can not be passed If the probe first passed is loose in the canal one after another of larger size should be tried until one is found that is passed with difficulty and completely fills the canal Strong pressure should be exerted on the mucous membrane throughout the entire length of the canal It is my custom to examine the nose to see that the probe is well down in the inferior meatus If it is not, this or a smaller probe is forced down until it can be seen or felt beneath the inferior turbinated body The probe is allowed to remain *in situ* about ten minutes It is then withdrawn and the lachrymal passage syringed with a saturated solution of boric acid until bleeding ceases The patient is then sent home and instructed to apply lead and opium wash on pledgets of lint which have been cooled on a block of ice This should be done almost continuously for 24 hours At the expiration of this time I inject, with a lachrymal syringe, into the duct a few drops of 10 per cent solution cocain A probe a size smaller than the largest one passed the day before is then passed The negative pole of a galvanic battery is then connected with the probe, the positive pole being placed in the patient's hand Then from two to three milliampéres of current is turned on for ten minutes When the probe is removed it will be found to be very loose, owing to the electrolytic action of the cathodal current The lachrymal passage is syringed free of blood as on the day previous There is usually a little bleeding after the removal of the probe, for the first four or five days The patient is instructed to use the lead and opium wash for four hours in the same manner as on the day previous On the third day the same probe is passed, unless it is found to be loose, in which event a size larger should be used The 10 per cent cocain solution should have been previously used to relieve the pain The probe is allowed to remain in the passage ten minutes After its removal the syringing is practiced as before A few drops of 25 per cent solution ichthyol in water are now syringed into the passage The probe is passed daily for about ten days, accompanied by the syringing of saturate solution of boric acid, and ichthyol solution The largest probe that the duct will take should be used At the end of the first week the battery should be again used in the manner described After the first ten days the above procedures should be carried out three times a week for two weeks, then twice a week for two weeks After this it should be done according to indications until all epiphora ceases The use of electricty should be practiced every week or ten days for the first six weeks, and after that according to indications It is impossible to lay down hard and fast rules in these cases I generally say to my patients that a cure may be expected in two months I am frequently able to dismiss them sooner My experience has been that a No 10 probe can be passed at the first sitting, and that in a few days a No 13 or 14 can be passed I have passed the No 16 probe in a few cases

When blenorrhea or phlegmon is present I expect complete disappearance of these symptoms during the first week When superficial necrosis of the lachrymal bones exists, treatment is sometimes more protracted, and has to be persisted in until the necrosed bone is absorbed In cases of fistula with sequestrum of bone it is necessary to cut down and remove the sequestrum

The three points that I desire especially to emphasize are, the opening of the upper canaliculus, the use of the largest probes possible of passage, and the electrolytic action of the negative pole of the battery

THE VALUE OF LARGE PROBES IN THE TREATMENT OF LACHRYMAL STRICTURE

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo June 7-10 1898

BY H O REIK, M D
Instructor in Ophthalmology and Otology Johns Hopkins University and Assistant Ophthalmic and Aural Surgeon, Baltimore Eye Ear and Throat Charity Hospital
BALTIMORE MD

Knowing that the treatment of lachrymal stricture would be one of the subjects of discussion at this meeting, and knowing also that there exists among ophthalmic surgeons a very wide difference of opinion concerning the use of large probes for this condition I thought it might be of interest to review and report upon the cases treated under the observation of Dr Samuel Theobald, whom all of you know as the author and chief exponent of the really large probes At the outset it would seem advisable to consider what is meant by "large probes, for notwithstanding the fact that Dr Theobald has so frequently explained this point and insisted on the difference between his probes and those of Bowman we still see in literature frequent references to Bowman s No 6 as a large probe Then again, the probes obtained from the instrument-maker under the name of Theobald are not always copies of the original model I have seen surgeons using what they supposed was a Theobald probe, but which in reality bore but slight resemblance to the proper thing Some of them perhaps all of them, are of proper size, but frequently they are improperly curved, or present extremities that are either very blunt or very sharp, and thus the possibility of delicate manipulation is precluded

When properly constructed, the probes should have a conical-shaped point the smallest should have a diameter of 25 mm, the largest, No 16, a diameter of 4 mm and the difference in diameter between successive numbers should be 25 mm The smaller sizes —Nos 1 to 8—should be made of coin silver, while the larger ones—9 to 16—may be made of pure silver or preferably, aluminium I will pass around for inspection a set made according to the above directions, which were published by Dr Theobald

The cases which, through the kindness of Dr Theobald, I have had the privilege of studying comprise in all 130—63 of which were seen in Dr Theobald s private practice and 67 in his service at the Johns Hopkins Hospital and at the Baltimore Eye, Ear and Throat Charity Hospital, in each of which last named places some were treated directly by him and others by his assistants The 130 cases are not selected ones beyond the point that they all received treatment with probes ranging between Nos 12 and 16 Of course a great many more than 130 patients appeared in whom the diagnosis of lachrymal stricture was made, but as they refused treatment or did not continue beyond the smaller sized probes, they were not considered to be of much importance in this paper In the cases here included the condition of affairs at the beginning of treatment consisted of persistent epiphora in all blenorrhea of the sac in all but a few, lachrymal fistula in some, and chronic blepharitis or conjunctivitis in many The pathologic lesion in probably all of the cases was one or more strictures in the nasal duct

We find that of all of the patients seen in whom the diagnosis of stricture of the nasal duct is made, about 50 per cent either decline operative treatment or fail to return after the first probing These patients consist largely of nervous men, who, after hearing the statement we usually make before instituting treatment, decide that they will not undertake it It is our custom to explain to all these patients that the treatment, despite the use of local anesthetics will be more or less painful and necessarily protracted This probably has the effect of scaring off some of them About 15 per cent of all who undertake the treatment fail to carry it on to the end They will receive the probes up to perhaps Nos 10 or 12 and then as the epiphora has ceased, they are disposed to stop treatment before we are willing to pronounce them cured Of the cases reported here, which include a number of children 75 per cent received probing up to and including No 16 About 50 per cent of all the children under 12 years of age received No 16 and 50 per cent of the remainder received No 15 [illegible] only 25 per cent of the children under 12 who were allowed to stop short of that point

What have been the results in these 130 cases in which the large probe treatment was thoroughly carried out? All but 3 were regarded as cured when treatment was stopped I may say here that the length of time under treatment [illegible] some patients being discharged at the end of a month or six weeks, while others were kept under observation more than a year Of the 3 referred to above, one was a particularly obstinate case in which several distinct strictures could be felt in the duct, another was much improved, though not cured, the stillicidium being only slight and occasional, and the third was a case in which the stricture resulted from traumatism In this last case the treatment was very painful, the scar tissue being difficult to overcome, and the patient did not continue his attendance as long as we desired He was vastly improved, a fistula which was present having healed and the blenorrhea of the sac which accompanied it being decidedly lessened

It is practically impossible to learn the whereabouts of all these patients today, as most of them were dispensary cases and have moved one or more times An effort was made to communicate with them in order to learn their present condition, and we succeeded in quite a fair degree Perhaps a dozen cases were heard from and their condition noted within six months from the cessation of treatment, but we will only consider the 39 cases which have been seen, or from whom reports have been received, at periods varying from one to eight years after the cessation of all treatment Thirty-seven of them remained cured when last heard of, as follows Ten last heard from after the lapse of one year, 11 after two years, 2 after three years 6 after four years, 1 after five years, 2 after six years, 4 after seven years, and 1 after eight years If the two which have relapsed be added to the three in which a cure was not at any time claimed, we have five out of a total of 130 in which the treatment may be said to have failed, although this would be an extreme statement, for in both of the relapsed cases the patients enjoyed a period of comfort, with absence of epiphora, of more than two years It would seem, then, that if the treatment is thoroughly carried out, we may expect to effect a cure in about 95 per cent of the cases, and a relapse may occur in about 5 per cent of these

I desire to express my thanks to Drs Hunter McGuire, Jr, and James Bordley, for much valuable assistance in following up these cases and preparing the statistics

DISCUSSION ON PAPERS OF DRS CONNOR, PRINCE, BLACK AND REIK

Dr D S Reynolds—No more interesting subject could be found, for the reason that we know so little about it I listened with attention to Dr Connor's paper because it seemed to me to be very timely I have never seen lachrymal disease in the perfectly sound and healthy individual I have serious objections to entering inflamed mucous lined channels with probes and I utterly abhor the idea of the Theobald probe, 4 mm in diameter I submit it to any gentleman who has ever examined the bony passages of the lachrymal apparatus, that a probe of that diameter can scarcely be passed in the Caucasian subject I am aware that many negroes have lachrymal passages of large diameter, but I am sure that a probe of more than 2 or 3 mm in diameter can not pass without doing damage to the passages of a white man There is no cause of epiphora that can not be discovered by careful examination If it be due to some destruction of infiltrated tissue arising probably from come trouble in the nose, as most of these cases do, it can be easily found if sought for I have heard a great deal about the innumerable cures of systematic probing, but I have never seen any of them that will wear well I have seen many cases of epiphora that by carefully advised constitutional agents and the confining of local treatment to the diseased membrane of the nasal cavity result well. I take the Anel's syringe and a 2 per cent solution of sodium chloride and try to pass that through the canal instead of the probe, and if the fluid can be passed through the canal where no suppurative changes are present I hold that to be a contraindication for any other surgical measures

These cases of Professor Holmes belong to a special class. They are not only chronic cases, but people with constitutional taints or who have been treated by harsh means that destroyed the duct and canal Primarily epiphora calls for no probing, and the presence of the condition merely suggests abnormal conditions that exist in the nasal apparatus

Dr Casey A Wood, Chicago—I would like to point out to you that even where it is proper to use probes, and even where a cure may be looked for after a considerable time, failure is exceedingly common It is not always possible to discover whether probing has succeeded in many cases because these patients become tired after a while of having their ducts probed and cease to appear at the office of the surgeon It interested me some time ago to discover the reason for the non appearance of these patients The excuses were found to be trivial, the patient is obliged to leave town or disease has occurred at home, and there are many additional reasons that are given for discontinuing the treatment That this form of it may be successful, one must, as Dr Reik has pointed out, often continue it for months or in some cases even for years One of the principal reasons for their deserting the oculist's office is the relief the patient gets at the outset The epiphora disappears, the symptoms improve and the patient feels that he is cured and does not think it necessary to come back In the city of Chicago men and women seem to have very little time on their hands and can not continue to visit the office for weeks to undergo a painful treatment, even though it may be good Now I want to point out a way in which, in the majority of instances, these results can be improved It is my practice not to treat these cases in my office for more than two or three weeks, and one can usually induce them to come that often, but during those two weeks I do all the accessory work that I consider necessary, treatment of the nose, etc, with the introduction of as large probes as possible, and I then teach the patient to use the probes himself and allow him to continue the treatment indefinitely at home Such a plan will be found to succeed in the majority of cases

Dr Frank Allport, Chicago—This is a broad subject and one that can hardly be fully discussed in the length of time we have to talk I am sorry we did not have an opportunity to hear more of Dr Holmes' paper, because we only got a glimpse of its value As Dr Reynolds said, I presume he only operates in this radical manner in those cases in which all other means have first been tried I think there can be no question that we all feel alike on this subject, that we all have cases that do not get well and we can only wonder why Some use small and some large probes I think one reason why we do not get better results in these cases is because a great many of them are treated along stereotyped lines We think the first thing to do is to rip up the apparatus without any regard to its normal physiologic condition and pass probes that are as large as can possibly be put in My practice formerly was to limit the probes only to the capacity of the duct, but a long line of failures led me to change

I believe that 80 or 90 per cent of the cases of epiphora originate in the nose and should be treated primarily from that standpoint Most surgeons practically ignore this point I also feel as Dr Reynolds does, that I have simply learned to abhor and detest the large probes I no longer use as large a probe as I can, but as small a one as is adequate, and since I commenced that practice I have had better results Some surgeons seem to think all that is necessary is to have a large hole down which tears may flow, but you may have a canal large enough to pass a No 16 and if the physiologic suction apparatus is destroyed the tears will stand in the sac and not go down You must have the physiologic condition of that apparatus retained I never cut the duct if I can possibly get along without it I try to preserve the physiologic function from the punctum to the termination of the nasal duct and a large probe, 5, 6 or possibly an 8, can be introduced after stretching without increasing the punctum I have here a little instrument like a hollow probe and containing a concealed knife, which can be passed through the stretched punctum and then made to expose the knife and cut the stricture in the duct (Exhibiting the instrument)

Dr J E Minney, Topeka—I have no doubt as to the success of Dr Reik's work nor of these gentlemen here advocating the Theobald probes and those of you who remember Dr Derby's work will remember what sized probes he used, the largest as big as my little finger These men succeed and it is astonishing that in my practice I have failed to use anything larger than a Bowman No 8 and I find I have treated 250 cases That may seem large but it is a fact A point that impresses me is this, that every oculist must be more or less of a rhinologist unless he wishes to divide his fees with some one else He must know something of everything and everything of some one thing

I have no use for the lotion of opium and lead I use hot water and boracic acid A 5 per cent solution of cocain I have found sufficient Electricity I have not used Is it not possible that we create a great many infidels by our use of so many things when a much simpler practice would be as good?

Dr George M Gould, Philadelphia—In reference to these troubles I simply wish to emphsize one or two points which I overlooked in my early practice and which some of you may have neglected I have no hospital or dispensary practice, hence do not see so many of these cases In the last two years I believe I have had occasion to use probes only once I have found that there are a large number of cases in which epiphora is simply due to an excess of tears and not because the duct would not carry off the normal secretion I think eye strain is the primary cause of these As the result of long continued eye strain you have chronic conjunctival trouble with an excess of tears and if you cure the cause the epiphora will disappear Several years ago I published a little article, and I have used the method there suggested probably a hundred or more times, and have never failed in any case in which there was not an organic stricture The method consists in submerging the eye in an astringent medium, the contents of the duct being first forced into the sac by pressure and then by filling the sac with the lotion and pressing downward it escapes into the duct You can teach patients to do this at home and let them report to you once a week

Dr J L Thompson, Indianapolis—There have been some very excellent papers presented to us and we have not time to consider them all Dr Connor's paper was very excellent and Dr Gould has in his remarks led me to think of the condition we so often find from excessive smoking, etc In that class of men who are given to smoking, drinking, gambling and other things that we do not think right, there are many cases of epiphora that are cured by relief of the strain

I have been trying to learn something about lachrymal troubles for 26 years and I notice the gentlemen who introduce new methods have excellent results, while I do not have one fiftieth part of the success they report with the same methods I do not know why, for I do not think I am so awfully stupid

At the last international Ophthalmologic meeting at Edinburg Argyll Robertson said that Dr Cooper and not Dr Theobald was the originator of the large probes I would like to ask Dr Reik if he can tell us anything about that point.

I have used large probes, some large enough for a rhinoceros and have thought my cases cured, but in a year or so some of them write "I believe you promised me a cure " I know how to answer that letter, because I never promised anybody a cure in my life I believe the majority of these cases will come back in a few years just as bad as ever Sometimes I use the style, allowing the patient to put it in at night and take it out in the morning Mine has been a private practice entirely I asked one of the gentlemen at Moorefield's "do you cure these cases?" and he said that many of them go to other hospitals after a time I usually tell my patients now that I am not going to perfectly cure them

Dr T A Grigg, Butte—We could not have a more timely series of papers, though we have all had much trouble over the treatment of lachrymal diseases Laying aside those cases due to eye strain, slight catarrhal troubles and the like, and taking up these cases of pure organic obstruction, the first thing I do is to dilate the punctum and try to pass the boracic acid solution through the duct by means of an Anel's syringe I examine the nose thoroughly and sometimes divide the strictures and pass as large a probe as convenient, from 6 to 8 Bowman Usually in these cases that can not stay I use a canula about as large as 6 or 8 Bowman probe and leave it in place from three to nine months, with very satisfactory results There is a pathologic law that an intermittent pressure will produce hypertrophy and that continued pressure will produce atrophy, and my theory is that if you can use a lachrymal canula you get a pressure on all sides and cause an atrophic condition that will relieve the obstruction With this method of treatment I have had very satisfactory results Where there is a purulent condition I often omit the canula for a few days and syringe the duct with a weak solution of nitrate of silver I have some cases treated five years ago which are all right at the present time

Dr J O McReynolds, Dallas, Texas—I should like to express my gratitude to the gentlemen who have contributed papers or discussion on this subject, for no cases have given me more trouble than these The ultimate object to be accomplished is by no means to secure a sufficiently large nasal duct, as Dr Allport has said, and that point ought to be published further than it has been In harmony with what Dr Gould has said, I would say that I have been able to cure some of these cases by diligent attention to the condition of the conjunctiva and by giving the correct glasses I have not simply given an antiseptic solution to be used occasionally, but very frequently during the day This keeps the duct cleansed out, and we have then the best condition possible for relieving the pathologic state I have even sometimes given patients a syringe which they could use themselves

Dr R F Le Mond, Denver—This is a subject we need to have discussed and experimented on very much, because when we get hold of these bad lachrymal cases we are like the man who got his hands full of a wildcat, he wanted somebody to loose his hands I think I have gained several good points by hearing this discussion today I want to say that a method which I have been using for the last eighteen months, and which has acted very well in many cases, though not so well in others, is the use of a hollow probe of pure lead, which I introduce into the duct curved so as to fit the canal, and let the patient wear it for a month, washing it out two or three times a week

Dr E C Ellett, Memphis—I did not hear the papers and do not know how much was said about the advantages that lead styles possess over any perforated canula I have never yet seen a canula that would drain a lachrymal passage Lead styles are so convenient, so easily fitted to the case, and secure much better drainage than you can get through the lumen of a canula.

Dr L W Fox, Philadelphia—I wish to add my experience in the treatment of lachrymal obstruction, which every one has found the bane of ophthalmic surgery I belong to the school that uses the large probes and believes in them I just heard the remarks about drainage with the canula After many years of experience I have partially evolved a canula which I wish to present It is a silver tube, modeled on those that have preceded us, and I have found it as satisfactory as anything I use For many years I have used the large Theobald probes The lead style has always been a favorite of mine immediately after operation, using that for three or four days and then following it up with these silver canulæ In the large manufacturing districts about Philadelphia we see many of these cases, sometimes having ten or twelve a week at our clinic, which consists of 4000 general cases a year Where there is ordinary epiphora and the mouth of the canal is closed, I use the probe to dilate to the fullest extent possible, and in those cases I have success, whereas if the stricture is farther down, or there is a latent abscess, the operation of passing the Weber or Stilling knife and dilating to the fullest extent, is followed with the lead style and then with these canulæ While I was house surgeon at Moorefield's we had an enormous number of cases, and the Cooper method was followed exclusively In Paris they used the narrow probes

Dr Wood—How long do you leave the canula in?

Dr Fox—For six months I take them out occasionally and wash the duct with a solution of boracic acid I find I am often obliged to keep in these canulæ and to probe from year to year

Dr W H Wilder, Chicago—I think it is an encouraging sign of the times when we hear so many men advocating the conservative treatment of these cases, and I dare say many of us would be willing to predict that the time will come in a few years when the indiscriminate probing of lachrymal cases will be relegated to the past I dislike to see a surgeon reach for the Bowman knife as soon as an epiphora case comes in We should endeavor to preserve the integrity of the canaliculus, once it is slit up we can never replace the delicate mechanism

I believe most certainly that many of these cases could be relieved completely if the conservative treatment were adopted from the beginning At first there is no organic stricture whatever It is merely a catarrhal condition and the duct is obliterated by reason of the swelling of the mucous membrane, and temporizing measures for a short time even, without the slitting of the punctum, will in very many cases suffice

I think Dr Holmes' specimens will illustrate very well that in some of them you could introduce the Theobald probe, but in many lachrymal ducts such probes would do great damage

Dr Kegley—In regard to teaching the patients to pass probes themselves, it seems to me the difficulty with all of us has been that we do not know when to discharge our patients About the first thing I do is to teach the patient to pass the probe himself, and as soon as I do that I discharge the patient and the rest is with him I have perhaps fifty cases now that I have been watching for eight years and every one of those patients is satisfied I never go above a No 8 probe, for I think that is large enough to drain off the secretions

Dr LeMond—I want to ask if any of the gentlemen present have tried the obliteration of the sac by means of the galvanic cautery?

Dr Connor—I have been extremely interested and instructed by these papers and the discussion that has been presented upon them In the whole range of ophthalmology I know of no class of diseases that have given me so much trouble At the same time I think the way to get out of the trouble is to study its source, and I am convinced that if the members of this Section look at the question from that standpoint they will find their results increasingly better If they apply the same common sense to this class of troubles they do to the extraction of cataracts, their results will become as good as in that case The earlier the cases are seen the better the results, and by inducing the patient, through the general practitioner, to undergo treatment before organic changes have occurred, we shall diminish our sources of failure As I remarked respecting probes, I think they should be used on the same general law that we use instruments anywhere I have once in a while found a case where everything else failed me and the Theobald probe has brought success My conviction is that one of the forces by which the tears are discharged through the canal is the air going in and out over the end of the tube That is according to the idea of mechanics, consequently I never use a large probe if I can help it, and only when I am compelled to make a large opening in the sac I think the use of hot water is helpful in some cases I think, as Dr Thompson stated, it is well to have the patient understand at first that one passing of the probe will not cure them They must not expect to get well in one or two weeks, and if they are not willing to undertake what is necessary for a cure it is better not to have anything to do with them

Dr Black—It seems to me that the conservatives have it, and I want to align myself with them While my paper may seem to have placed me among the radicals, at the same time you must remember that I made the statement that it was not the cases capable of being treated by mild methods that I was dealing with My paper had to deal with difficult cases, and in my experience these have been the cases where there was purulency of the sac Where there is simple stenosis, especially at the upper end of the lachrymal apparatus, I believe that mild methods will accomplish a cure in a large percentage of cases, and that we should discourage the consideration in all cases of the general physical conditions I would not for a moment advocate It goes without saying that any man doing special work should not fail to recognize that he is still a practitioner of medicine It does seem to me, however, that it is within reason that if it is necessary to pass a probe we must take into consideration the capacity of the passage To dilly dally around in the duct with a little bit of a lachrymal probe serves to tickle it and accomplishes nothing We must put a probe down for the purpose of producing pressure, I can conceive of no other reason for introducing, and if we want pressure let us use a probe large enough to fill the passage In my experience during a service in the Manhattan Eye and Ear Hospital in New York, where I had the opportunity of observing other men using different methods, I was strongly impressed with the fact that the men who never used probes larger than No 8 were the men who had these cases continually on their hands The men who were inclined to use rather energetic means in these severe cases accomplished something and their cases showed marked improvement and were soon discharged My experience has been that when I have one of these marked cases of obstruction mild measures accomplish very little

Dr Reik—I did not attempt in my paper to consider the value of large probes in the treatment of lachrymal stricture, further than a brief statement of our results in those cases where the large probe treatment had been thoroughly carried out The 130 cases there considered contained none of those mild cases of epiphora due to obstruction of the puncta, reflex irritation or slight catarrhal troubles, but all belonged to that class in which there is an organic obstruction in the duct and, as I stated, in most of the cases we were able to locate by the sense of touch one or more distant contractions Our cases were followed up for periods varying from one to eight years, and I know of no other method of treatment for this class of cases which will show 95 per cent of cures Dr Reynolds attacked the large probes in his characteristically forcible style, but I think it would not be difficult to demonstrate to him the ease with which a 4 mm probe can be introduced into the duct of the Caucasian subject, and I think, furthermore, if he will measure the lachrymal ducts of any large number of subjects he will find the average diameter considerably larger than he is at present inclined to believe Dr Wood's plan of teaching the patient to use the probe himself is a good one, and we have made use of it in many cases, especially where the patient lives at a distance and can not make frequent visits to us Dr Allport's experience is entirely at variance with ours It is true that after the use of probes to Nos 8 or 10 epiphora ceases in many of these cases and the patient is inclined to call it a cure, but a study of our records shows that if these cases be followed, not simply for a few of the summer months, but for a year, so as to include the winter months, numerous relapses will be noticed In regard to Dr Thompson's question concerning the authorship of these probes, I would say that I am familiar with Argyl Robertson's statement, but he gave no dates in connection with Dr Cooper's claim of priority and the question can not be settled yet

REPORT OF TWO CASES OF ACUTE GLAUCOMA

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY H BERT ELLIS, M D

LOS ANGELES CAL

On Jan 11, 1895, there called upon me Mr G M, aged 51, a minister by profession, who gave the following history

On January 8, while eating supper with his family, a little piece of dry toast choked him and caused a coughing-spell, during which something seemed to snap in his right eye Shortly afterward his eye became very painful and watered freely The lids began to swell and the eye to become inflamed, and his regular physician was called in, who gave him an atropin and cocain solution As the swelling and redness continued to increase, he was referred to me by his physician I found both the orbital and palpebral vessels very much injected, especially of the lower portion of the eye, the pupil very large, the tension slightly reduced, so that I thought that the dilation of the iris was the result of the atropin and cocain, but the use of a half per cent solution of eserin failed to contract the same The lens was dislocated downward and backward Under a light pressure-bandage and rest for twenty-four hours, the lens regained its position, but the pupil was still irregular and large, the lower part of the lens cloudy In so far as vision was concerned, that eye was almost blind, the patient only being able to distinguish light, the tension was slightly less than that of the other eye On the 18th, he could distinguish the form of objects, on the 25th he could notice individuals, but could not tell their features On this date, the patient was free from pain, the swelling of the lids had almost entirely gone, and the injection was greatly diminished I tested the vision of the left eye and found it to be 3/40, which was brought up to 6/7 by a + 5 5 spherical, combined with a + 5 cylinder at 180 degrees and he could read number 50 D, with an addition of + 3 spherical On February 1, the lens was quite cloudy The tension had increased and the cup was glaucomatous, vision entirely gone I saw the patient frequently during the spring, kept him upon eserin and mild astringent drops, and there was no material change in his condition I corrected the error of refraction of his left eye and cautioned him in regard to the use of the same On October 29 my notes say Lens clear slight haziness of cornea tension normal Disc cupped, with the vessels passing over the edge and disappearing I warned the patient to be very careful about using his eyes, that he might have a similar attack with his remaining useful eye, and requested that on the first intimation of pain he report I saw him occasionally during 1896, the tension slightly increased in right eye as time went on He was doing his pastoral work faithfully, but abstained from reading more than he absolutely had to On April 5, 1897, he came to my office, being led by his wife, and gave the following report For about a week he had been suffering from a severe cold in the head and, accompanying that, a slightly inflamed eye which he thought, as the cold improved, would pass off There had been considerable pain and five days before reporting, he became almost blind but was too miserable to report and still clung to the idea that it was only inflammation and would soon pass off I found the tension of the eye ball + 3 pupil very much enlarged, and the media so turbid that an ophthalmoscopic examination was unsatisfactory I performed iridectomy at once, which gave him slight vision, that is, with a — 1 spherical glass, combined with a + 5 cylinder at 125 degrees, he could read 6/100, sufficient vision for him to get around among his parishioners and about the city

Miss J S, aged 24, came to me on the morning of Sept 18, 1897, with her family physician, and gave the following history On the evening previous, she had an acute pain in her right eye followed by sudden blindness The conjunctiva was inflamed with marked photophobia, increased tension and dilated pupil I could elicit nothing as to previous history outside of her usual mode of life Diagnosis acute glaucoma Treatment, immediate iridectomy Satisfactory progress, and on November 1, with a + 2 75 spherical combined with 4 5 cylinder at 130 degrees, it was 6/24, with a — 1 cylinder at 120 degrees and a 2 5 cylinder, she could see 6/20 + On Dec 8, 1897, I prescribed for her a — 75 spherical combined with a + 3 25 cylinder at 30 degrees, which gave her vision of 6/15

This case is a typic case of acute primary glaucoma The first case is peculiar, in the first attack, in having a partial dislocation of the lens as the primary cause of the glaucoma, whereas the attack with the second eye seems to have originated *de novo*, or at least was provoked by an acute cold

I present these two cases in contrast, simply to illustrate the conditions that we have to meet constantly in private practice There is nothing extraordinary in either diagnosis or treatment One is typic, and one departs very materially from the usual conditions

243 246 Bradbury Block

A CASE OF HEREDITARY GLAUCOMA

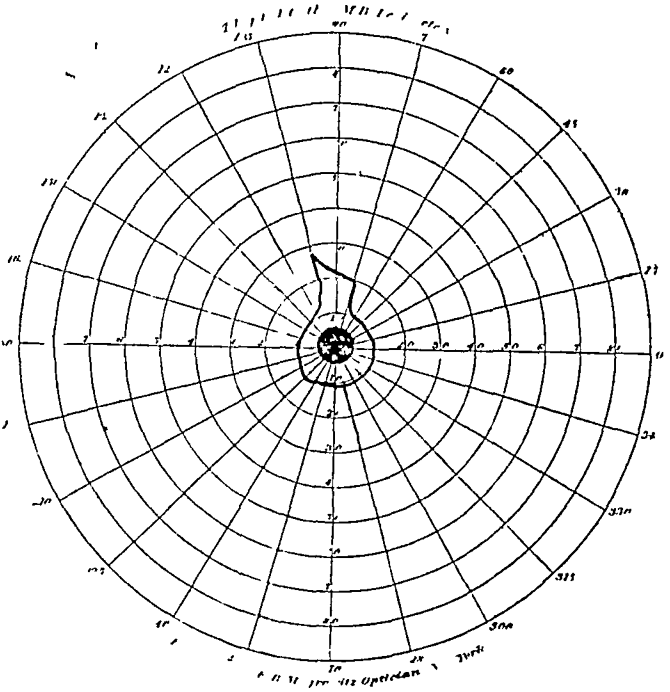
Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY HERBERT HARLAN, A M, M D

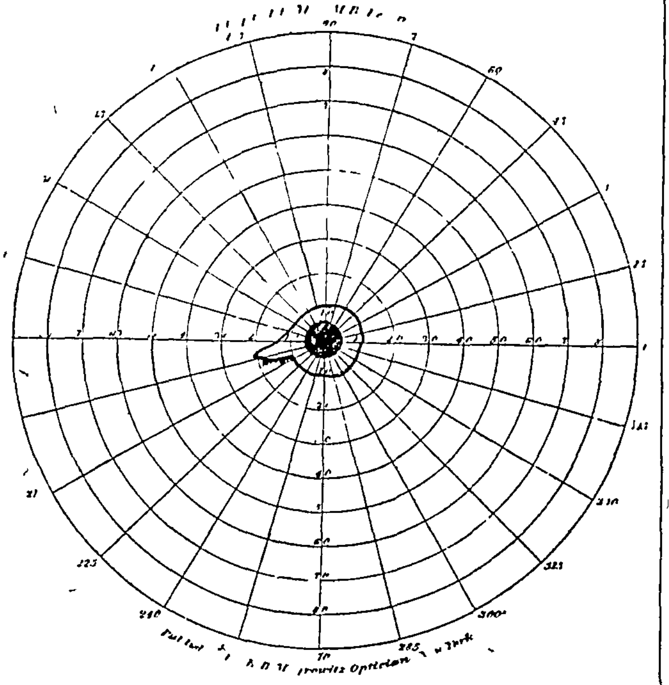
BALTIMORE

Before this Section, at the New Orleans meeting in 1885, I reported a case of glaucoma the patient being one of the fifth successive generation in which the disease had appeared That case C L B, aged 17, consulted me in March of that year The following is the family history taken from the previous report

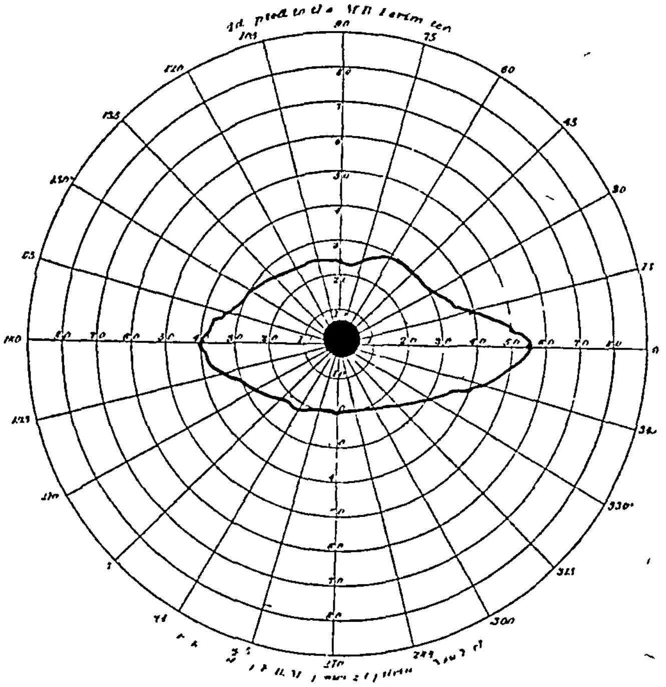
"Her mother, who accompanied her [illegible] old, and absolutely blind Both anterior chambers are obliterated and the pupils closed She states that at 19 her eyesight began gradually to waste away She saw halos around the lamp A year later she had inflammation in the eyes which the doctors called cold and treated with drops and blisters After a while the eyes got better Then another attack of inflammation came on, and she has been blind ever since Never at any time was there much pain The mother's father lost his eyes in the same way, beginning at the age of 18 This is the history of the maternal great grandmother and great-great grandfather I was unable to trace the family history farther back, but from that given there can be little doubt that glaucoma has been transmitted in direct line for five generations, the age of onset being about the same A maternal uncle at 35 years had pain in his eyes and head, and in three years his sight was entirely gone A maternal aunt, who saw perfectly till she was 18 years old, and never complained of pain, was suddenly found by the family to be blind (This was the mother of the patient whose case I am about to relate today) Two uncles and an aunt, all over 55 years of age, see well One cousin, now at a blind asylum, began to lose her sight at 16 Sight in the left eye was gone before it was found out The other slowly followed Never complained of pain Another cousin was operated on four years ago by an oculist of Baltimore One eye was removed altogether, and on the other an iridectomy was done, and with this she now sees ”



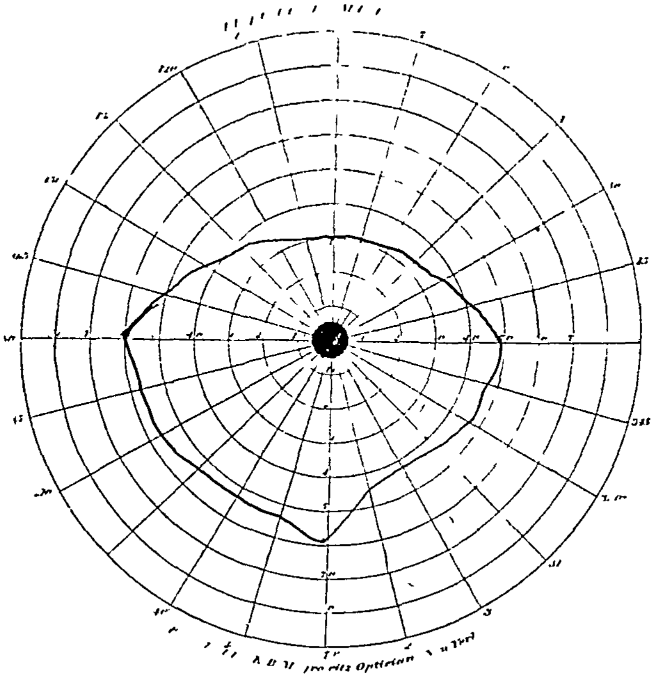
Case of Daisy Hubbard, Dec 1, 1897 Right



Case of Daisy Hubbard, Dec 1, 1897 Left



Case of Daisy Hubbard, Jan 10, 1898 Right



Case of Daisy Hubbard, Jan 10, 1898 Left

So much for the family history It is now 13 years since double iridectomies were done on C E B and she still retains her eyesight She has married and is the mother of four children, all boys, so that there is a good prospect of the disease being reported in still another generation at a later date

On Dec 1, 1897, Daisy H, a first cousin of C E B, their mothers being sisters, as above stated, appeared at my clinic at the Presbyterian Eye, Ear and Throat Charity Hospital Her sight was said to have been failing for two years Central vision was 20/30 each The fields were extremely contracted Pupils slightly dilated T + 1 Discs deeply cupped Eserin was instilled, and next day an iridectomy was done on the right eye A week later the same operation on the left January 10 there was a very great improvement in the fields, as shown in the accompanying diagrams, although at that time the central vision was not so good She left the hospital January 28

A letter received May 25 says she has improved greatly, that she has no trouble with the eyes, that they are very strong, that she can see well This interesting family is of French Huguenot stock, and are known in their county as the blind le Comptes There is a tradition that a black eyed woman, on account of some real or fancied wrong, cursed the family, and since that time all the dark eyed children have gone blind—those having blue eyes escaping It happens that the eyes of Daisy H are blue As far as I have been able to learn all the other glaucomatous eyes in this family are dark It would seem that the cases yield readily to treatment by iridectomy

DISCUSSION ON PAPERS OF DRS ELLIS AND HARLAN

Dr J L Thompson, Indianapolis—Acute glaucoma may be a primary or secondary affection and requires to be treated accordingly When there are no complications an iridectomy is preferable to all other modes of treatment, but I have seen cases where there is great chemosis of the conjunctiva with irido choroiditis or cyclitis, in which leeches and hot fomentation had to precede the operation which, after a few days, has been done with the happiest results I recall a case of acute glaucoma which accompanied retinitis albuminurica This also was relieved by the above methods and eventually passed off, but the patient died about four weeks later of Bright's disease

True hereditary glaucoma I have met with but once This occurred in a girl 11 years old, whose father had undergone extensive operations for caries and necrosis of the parietal bones of specific origin The child had the characteristic Hutchinson's teeth She had suffered from chronic glaucoma for over six months before I saw her The optic discs were very much cupped and the veins pulsating Eserin was used for a few weeks, but she became worse, tension +2 with vision below $^{2}/_{100}$ I made an iridectomy upon each eye which was followed on the fourth day by a hemorrhage into the left anterior chamber, and on the sixth by the same in the right anterior chamber These hemorrhages recurred several times inside of three weeks, which very much alarmed me But she finally recovered with V $^{20}/_{100}$ in one eye and [illegible] in the other She has had no trouble since

Glaucoma and detachment of the retina —Three months ago an attorney at law, aged 30 years, consulted me on account of his right eye, which became blind suddenly in childhood, but which gave him no trouble until a few months ago, when it caused a dull aching about the brow and temple I found an extensive detachment of the retina about the lower outer and inner parts of the disc, with a portion upward which was not detached This portion showed several pigmentary patches along the sides of the branches of the retinal vessels Tension +3, vision, right eye 0, left eye [illegible] I gave him a weak eserin solution and advised him to call on me again, which he has not yet done

We are still on a sea of doubt as to the cause of this hardening of the globe We have been inclined of late to lay too much stress upon the iritic angle and the spaces of Fontana Many of us have met with cases in which the anterior chamber has become unusually deep after cataract operations, and still the hardness of the eyeball has gone on increasing until sight has been destroyed I have met with one case of congenital absence of the iris and yet the eye was lost from glaucoma Iridectomy is still the most reliable remedy in a majority of cases, and still we have to deal with some chronic cases in which contraindications to operative interference obtain In many of these I have saved the sight for years by eserin in very weak solution and by massage of the eyeball Just how an iridectomy benefits a patient we know no more than we did when its illustrious originator wrote concerning it His last words on the subject apply to this day just as well as then Said he "No progress of importance has been made in respect to the theory of the operation, notwithstanding many attempts Old hypotheses are usually dragged forth, little as they avail for the explanation of existing facts The unhappiest of all, the one referring the effect simply to the wound of the ocular capsule is periodically brought forth, decked in some new formula and recommended for adoption Fortunately for our patients, practice advances independently on the foundation of empiric principles No doubt some day a satisfactory theory will be found, but in the meantime we must not be led away by transient hypotheses "

Dr Geo M Gould, Philadelphia—I wish to give my experience with one of several cases of glaucoma that may be instructive to some, for it certainly was to me An old Quaker lady came to me three years ago, after having had one eye operated upon for glaucoma, and the operation having been a failure in that the iris was almost completely torn from its attachment The pain had been lessened, but the tension, +2, remains until this day At the time she visited me the other eye had become quite hard and she was much frightened Her experience had been so sad with the operation that she refused to consider another, nor would she listen to anything like enucleation of the bad eye At that time I had also been trying massage, as Dr Thompson speaks of, and instructed her how to carry it out—for I believe the success of the treatment depends largely upon the delicacy of touch of the patient Despite the bad outlook in this case she now has perfect vision in that eye Massage has to be kept up at intervals according to the degree of tension of the globe, which shows a constant tendency to harden

Dr J O McReynolds, Dallas—About five years ago a patient came under my observation who had been operated upon for glaucoma two months previously The operation was an iridectomy and the eye was lost with subsequent development of very intense inflammation of the eye and it became necessary to enucleate She got along very well, but had repeated attacks of glaucoma in the other eye Just as has been the result in Dr Gould's case, she now has perfect vision and the treatment I employed has been massage and the repeated instillation of small doses of hydrochlorate of pilocarpin, combined with appropriate internal medication She has become so skillful in the detection of the early symptoms that she can make a diagnosis of its approach and she will carry on the massage and instillation of the pilocarpin until the tension comes down to normal One other feature I wish to mention is with regard to some of the exciting causes of glaucoma A patient was brought to me some time ago completely blind in both eyes as the result of glaucoma. He had lost one with glaucoma and after several months he went to an oculist fo-the purpose of having a pterygium removed from the good eye The operation was done and within two hours an acute, fulminating glaucoma developed in that eye, resulting in complete loss of vision I wish to bring out the point of danger in making any kind of an operation upon an eye that is predisposed to glaucoma It may have occurred in this case from the cocain, the operation, or the mental impression produced upon the patient, which I am quite sure has much influence in these cases

Dr Holmes—I would like to ask Dr Gould how often he advises the massage?

Dr Gould—Just as often as the tension goes above normal The manner of massage is, in my estimation, of importance, that is, the rubbing must be very slow and clear around the outer edge of the eye You can make great pressure if you will only go slowly and make no quick movements

Dr J E Minney, Topeka—I was recently called to a case of glaucoma where I desired to do an iridectomy, but they refused I inquired into the history of the case and ordered quinin The homeopathic physician who was in attendance said that he had put the patient on quinin and that he was giving five grains every four hours This treatment was continued and the patient was cured It was a case of malarial glaucoma I never thought so much about glaucoma until two years ago, when the pastor of a little church in Kansas was stricken with total blindness He called for the family physician because of the pain, and the physician injected morphin, which gave temporary relief He came to me in April, two months later, with the right lens dislocated into the anterior chamber, high tension and much pain The eye was enucleated, and he did well He returned to his charge, but six months later I had to remove the other eye It is the saddest case that ever came under my observation I think if those who are teaching medical students can only teach them two things, that is, to recognize iritis and glaucoma, they will be amply repaid

Dr C D Wescott, Chicago—*I would like to ask Dr* Gould, or others who have used massage, if they succeed in preserving the fields as well as the vision in these cases? I have had a patient under treatment for two years whose vision has remained 20/30, and whose tension is kept down, but the field has gone on contracting

Dr Gould—The field in the several cases I have had, and especially the one I referred to, remains normal, but I have only tested her with the finger for the past year

Dr Thompson—Some of my patients, in spite of the massage, have gone blind, but so have some of my iridectomy cases A great many cases have been benefited and the field has not contracted, but in spite of any treatment you will have some of the patients go blind

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THE FIELD OF BINOCULAR FIXATION OR THE HOME OF THE GUIDING SENSATION OF THE RETINA

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo June 7-10 1898

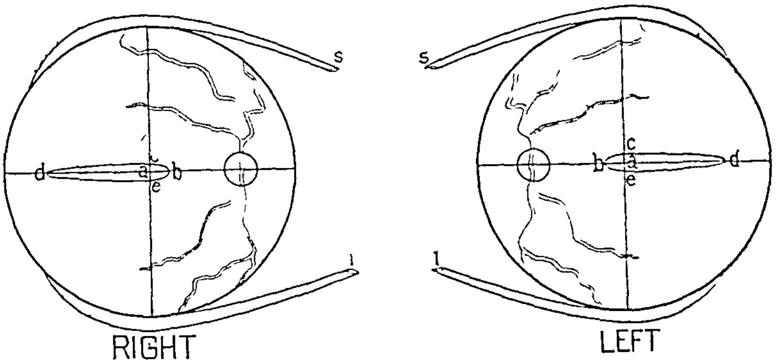
BY G C SAVAGE, M D
PROFESSOR OF OPHTHALMOLOGY IN MEDICAL DEPARTMENT VANDERBILT UNIVERSITY
NASHVILLE, TENN

A private letter from Dr Francis Valk of New York has led me into a further study of the guiding sensation of the retina In my book "New Truths in Ophthalmology," I have emphasized its importance as master of the extrinsic and intrinsic eye muscles, but it seems to me now that I did not place enough emphasis on it The part of Dr Valk's letter which has led me to undertake this communication is as follows "I have been reading your book lately and have been very much pleased with the work, but as I have read it a question has come into my mind that I want to ask you about I note that in your chapter on Accommodation and Convergence, you lay great stress and importance on the guiding sensation of the eyes, and there I agree with you, but if this function is so important, and I believe it is, then may I ask Of what value is any test for the power or balance of the ocular muscles that deprives the eyes of this most important function? In my own mind I am convinced that we must treat our cases of muscular difficulties according to nature's demands on the eyes, and we must not deprive the eyes of their most important function to understand their balance"

For many years I have taught my classes in the Medical Department of Vanderbilt University that, if we had but one eye, there would be no need for the extrinsic ocular muscles, that all of these muscles exist that there may be binocular single vision In simplifying the study of these extrinsic ocular muscles I teach that the recti, in the final results of their action are concerned only with the visual axes, that the superior and inferior recti, if acting in harmony, will keep these visual axes in the same plane, and that the lateral recti muscles will so control these axes as to make them intersect at the point of the object to be fixed

I believe further that, if these recti muscles could thus control the visual axes without effecting any other change, there would be no need for the oblique muscles in eyes not affected by oblique astigmatism Because of the fact that the inferior recti can not depress the eyes without, at the same time, effecting divergence above of the vertical meridians of the eyes, and the superior recti can not elevate the plane of the visual axes without, at the same time, converging above the vertical meridians, the necessity for the oblique muscles in all eyes for counteracting this torsion is at once made clear hence I have always taught that the oblique muscles exist for the purpose of keeping the naturally vertical meridians parallel, which I have termed the simple function of the obliques But in oblique astigmatism, with the meridians of best curvature converging or diverging above, the obliques are forced to perform their complicated function, which is to slightly converge or diverge the naturally vertical meridians Therefore the common function of all the extrinsic ocular muscles is the production of binocular single vision I believe these muscles are subject to one common master, which I have termed the guiding sensation of the retina I believe that the home of this guiding sensation in the retina can be outlined, and that within this area the guiding sensation, in a normal condition of the ocular muscles, has the complete mastery of them all I believe its throne to be the fovea centralis of the yellow spot of Soemering, and that its scepter sways over an area of the retina somewhat of the shape outlined in the accompanying cut

An image displaced 4 degrees to the nasal side of the macula by means of an 8 degree prism marks the inner boundary of this area, and, that vision may not be doubled, the guiding sensation commands the external rectus to abduct the eye so that the macula may be brought under the displaced image An image displaced to the temporal side of the macula 15 to 20 degrees, by means of a prism of 30 or 40 degrees, practically marks, on the horizontal retinal meridian, the temporal limit of this area To prevent double vision the guiding sensation can command, through the brain that the eye be abducted so as to bring the macula under the displaced image Likewise a displacement of an image on the line of the vertical retinal meridian 1½ degrees above or below the macula by means of a 3 degree prism, base up and down respectively would mark the upper and lower boundaries, on this meridian, of the retinal space constituting the domain of the guiding sensation To overcome the diplopia the guiding sensation only has to call into activity the muscles that will depress and elevate the eye Beginning at the nasal limit, *b*, a line drawn through the upper limit, *c*, thence through the outer limit, *d*, thence through the lower limit, *e*, thence back to the inner limit, *b*, encloses this retinal space An image displaced anywhere within this space in one eye, without any displacement in the other, can be fused with the non displaced image in the fellow eye at the command of the guiding sensation, the proper muscle always responding to the call Images displaced without this area can not be fused and no attempt is made at fusion, the guiding sensation having learned that its commands under such a condition will not be obeyed, or that it has no existence without this area It remains, nevertheless, a fact, that some eyes with abnormal condition have a smaller retinal area for the effective work of the guiding sensation, while in others, in which the extrinsic muscles are of more than what is considered normal strength, this area is larger Therefore it may be stated that in individual cases of heterophoria, this area will have its own shape, differing from that represented in the cut The drawing is intended to represent eyes whose abduction is 8 degrees, whose sursum and deorsum duction is 3 and whose adduction is from 30 to 40 degrees Between the lines, it may be stated here, that the diplopia which would be effected by a torsion of the eyes by the superior and inferior recti muscles, and the diplopia caused by oblique astigmatism, are each counteracted by the oblique muscles in obedience to a command from the guiding sensation



If this teaching as to the guiding sensation be true, what should constitute the methods of examination to determine the condition of the extrinsic eye muscles? It should be granted in the beginning that if there is orthophoria of all of these muscles the visual axes and the vertical meridians will bear the correct relationship to each other although the vision of one eye may be excluded by means of an opaque disc interposed No test for heterophoria can be fully relied upon, unless the displaced image in one eye is thrown entirely without the retinal area occupied by the guiding sensation for the eye under test should be taken wholly from under the control of the guiding sensation that the eye muscles might place the eye in the position of equal tension of all of the eye muscles, which means the position of rest There should be no displacement of image in the other eye[1] At once it would appear that the test by means of Maddox' rod could not be the best, for, in some part, the streak of light must invade the domain of the guiding sensation, necessitating some sort of effort on the part of the guiding sensation to effect the fusion of some part of the false image with the true For lateral heterophoria it would seem that a prism sufficiently strong to throw the displaced image entirely beyond, either above or below, the outlined area would be a *sine qua non* This would take, unquestionably the lateral muscles from under the control of the guiding sensation when the eye under test would swing itself into a position of equal tension of the externus and internus, thus causing the displaced image to stand to the right or to the left of the vertical plane of the true object The distance should be measured by prisms and that measurement would show the quantity of the lateral error, whether esophoria or exophoria Likewise, in testing for vertical heterophoria the image in one eye should be displaced to the nasal side of the macula, entirely beyond the retinal area under the control of the guiding sensation, when the eye, no longer under the control of the guiding sensation, would be elevated or depressed so as to give equal tension to the two vertically acting muscles The measurement of the elevation or depression should be taken in the usual way by means of prisms, and thus could be reached a correct understanding as to the quantity of the hyperopia or cataphoria of that eye

Objection to the double prism test would appear to be that one of the displaced images might fall within the retinal area of the guiding sensation and hence might lead to some error, but if the prisms are sufficiently strong both images can be thrown so far outside of this area as to make the test perfectly reliable

After having made the test for ascertaining the balance or imbalance of the eye muscles the intrinsic power of the recti muscles should always be taken By this it is meant that prism after prism should be used up to the point where fusion is no longer possible If a case has been found to be orthophoric and the abduction is 8 degrees, and the sursum and deorsum duction each 3 degrees, no condition could be more desirable This test would show that within the area under control of the guiding sensation, images can be easily fused by means of obedience on the part of the extrinsic muscles to the command of the guiding sensation Again, suppose that a case has been found to be exophoric and the abduction is only 8 degrees, or less, there is at once a clear indication for doing nothing at all to the external rectus muscle of either eye, but the attention, in such a case, should be turned to the interni, and the condition should be corrected either by exercise of these muscles or by shortening one or both of them

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[1] The author has just now (September 20) perfected a phorometer on this principle

While the phorometer will always show the kind of heterophoria with which we have to deal, the duction test should always be relied upon as a correct guide in our efforts to bring relief

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DYNAMICS OF THE EXTRINSIC OCULAR MUSCLES

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo, June 7-10 1898

BY FLAVEL B TIFFANY, M D
KANSAS CITY MO

Some years ago, when I became especially interested in the subject of the dynamics of the extrinsic ocular muscles, I read and reread the chapters on this subject As the subject to me at that time was abstruse and puzzling I tested repeatedly the strength of the ocular muscles in my own case, and as I could only get a fractional amount of prism dynamics compared with that given in the books I concluded that mine was an exceptional case, that the strength of my extrinsic ocular muscles was greatly below the normal, but when I began to test some of my patients and found that their abduction as a rule only amounted to 6 or 8 degrees, while the adduction rarely exceeded 20 or 30 degrees, which was much less than was stated in the text-books, I began to think that there was some mistake Either I had not thoroughly comprehended the subject and had used different methods or else the statements in the books were misleading But it was not until Dr J M Banister, major and surgeon U S A, read his paper that I was fully persuaded to make a more careful search in the subject

Last winter I examined 100 medical students (seniors) who were fully impressed with the importance of giving eqact answers that the real conditions might be obtained The examinations were carefully made with square prisms, Stephens' phorometer, Maddox rod and double prism test My associate, Dr George E Bellows, assisted me in making the tests and compiled the tables following

POWER OF ABDUCTION

No of cases	1	1	18	20	32	5	14	2	2	1	1	1	1	1=100
No of degrees	0	3	4	5	6	7	8	9	11	12	13	14	15	18

Unusual cases as regards relative powers

A—Abduction greater than adduction

Case, No	Add	Abd	Condition
51	8°	13°	Exophoria
35	6°	8°	
41	6°	12°	
65	8°	11°	
70	5°	7°	
81	6°	8°	

B—Abduction equal or nearly equal to adduction

Case No	Add	Abd	Condition
6	6°	6°	Exophoria
44	6°	4°	Orthophoria
52	10°	8°	Exophoria 8°
77	6°	6°	Exophoria
79	6°	6°	Orthophoria
94	8°	8°	Exophoria

Average power of adduction, 19° average power of abduction 6 26°, average power of sursumduction 2 45° average power of deorsumduction 2 16°

POWER OF ADDUCTION

10 degrees and under	17 cases
10 to 20 degrees	51 cases
20 to 30 degrees	22 cases
30 to 40 degrees	6 cases
50 degrees and over	4 cases

Age	Color of eye	Vision R	Vision L	Myopia	Hyperopia	Astigmatism	Esophoria	Exophoria	Cataphoria	Hyperphoria	Orthophoria	Adduction	Abduction	Sursum	Deorsum
26	Brown	20/20	20/20			H¼		½				22	9	2	0
39	Blue	20/20	20/20								Yes	14	6	2	0
33	Blue	20/20	20/20				2					64	4	4	
27	Blue	20/20	20/20			H½					Yes	26	8	5	6
25	Grey[1]	20/80	20/70			M					Yes	18	4	4	3
34	Blue	20/20	20/20			H½	1					6	6	3	2
28	Blue	20/20	20/20								Yes	14	9	4	4
24	Brown	20/40	20/40			H¾ in 90 deg	1					15	5	4	3
24	Brown	20/30	20/40			H½ in 180deg					Yes	9	3	3	3
25	Brown	20/20	20/20					1				12	5	2	2
27	Hazel	20/30	20/30			H¼		1½				16	6		
41	Blue	20/20	20/20				1					20	4	2	2
21	Blue	20/20	20/20				2					52	3	1	1
21	Blue	20/20	20/20				1					12	4	4	4
25	Brown[2]	5/180	20/20								Yes	10			
27	Brown	20/30	20/30			H½	2¹					26	4	3	3
26	Brown	20/50	20/50			M 1		½				10	7		3
26	Blue	20/20	20/20								Yes	15	8	4	2
20	Blue	20/30	20/30			M¼					Yes	14	6	1	2½
23	Blue	20/20	20/20					2				15	5		1½
25	Blue[3]	20/30	20/30				2½					16	6	2	2
24	Blue	20/40	20/40	½			2					15	8	½	3
27	Brown	20/20	20/20				1¹					24	5		4
28	Brown	20/30	20/30		¼						Yes	23	8	3	3
34	Hazel	20/20	20/20				2¹					23	6	2	2
26	Brown	20/30	20/30		¼		1					15	5	1	1
25	Grey	20/20	20/20								Yes	24	8	1	1
27	Grey[4]	20/100	20/20							½ R		20	5	2	1
28	Brown	20/20	20/20							½ R		24	18	4	4
26	Brown	20/20	20/20								Yes	22	8	1	2
32	Blue	20/20	20/20				1					21	4	2	2
26	Blue	20/20	20/20				1		0			15	4	2	2
36	Grey	20/20	20/20								Yes	29	6	2	2
40	Blue	20/20	20/20								Yes	21	4	2	2
26	Grey	20/20	20/20					1				6	8	3	3
31	Blue	20/30	20/30	¼				2				27	7	2	2
21	Blue	20/20	20/20					½				12	7	3	1½
24	Grey	20/20	20/20					2¹				16	6	2	2
29	Grey	20/30	20/30		½			2¹		R½		29	6	4	3
24	Brown	20/20	20/20								Yes	11	5	2	2
35	Brown,	20/20	20/20					4				5	12	2	2
30	Brown	20/20	20/20				1½					24	6	2	1¼
35	Grey	20/20	20/20				1½					17	4	1¹	1½
26	Brown	10/160	10/160	2½							Yes	6	4	3	3
28	Hazel	20/50	20/80	Apparent M			1					29	4	3	3
28	Blue	20/30	20/40		¾			4		R2		12	14	5	3
31	Blue	20/20	20/20								Yes	11	5	3	2
29	Blue	20/20	20/20				1					8	4	2	2
30	Brown	20/20	20/20								Yes	8	4	1½	2
27	Brown	20/30	20/30		¼						Yes	28	6	3	2
20	Grey	20/30	20/20		¾			2		L½		8	13	4	2
38	Blue	20/20	20/20					6				10	8	3	3
28	Black	20/30	20/20		½						Yes	16	6	4	3
28	Blue	20/20	20/20								Yes	12	8	4	2
21	Brown	20/20	20/30								Yes	14	5	1¼	1
35	Brown	20/20	20/20								Yes	40	5	1½	1½
28	Grey	20/20	20/20				1					32	5	2	2
23	Blue	20/30	20/30		½		1					14	8	2	2
25	Grey	20/20	20/20		L¾		1					15	6	3	1
18	Blue	20/20	20/30	½							Yes	12	5	3	2
32	Blue	20/20	20/20								Yes	16	6	2	2
49	Brown	20/100	20/100	2							Yes	10	5	3	2
27	Blue	20/20	20/20								Yes	22	5	2	2
26	Blue	20/20	20/20					1		R½		26	6	2	2
24	Grey	20/30	20/30	½				1½				8	11	2	2
21	Blue	20/20	20/20								Yes	15	6	3	2
28	Blue	20/30	20/20			H in 180	2					20	6	4	3
23	Blue	20/40	20/40		1		1½					18	6	3	2
26	Blue	20/20	20/20					½				40	5	4	2
22	Blue	20/20	20/20					1				15	7	1	1
19	Brown	20/20	20/20								Yes	18	5	3	2
22	Blue	20/20	20/20					1		L½		29	4	1	1
21	Black	20/80	20/80	50				1				12	5	4	2
26	Blue	20/20	20/20				½					16	6	3	2
23	Blue	20/20	20/20				1					20	5	3	3
24	Brown	20/20	20/20								Yes	20	5	2	2
21	Blue	20/20	20/20					1				6	6	2	1
21	Brown	20/20	20/20								Yes	18	6	2	1
21	Blue	20/20	20/30		¼						Yes	5	6	1	1
24	Blue	20/30	20/30		¼						Yes	23	11	4	3
27	Blue	20/20	20/20					1				6	8	2	2
21	Blue	20/20	20/20					1				14	5	3	2
21	Brown	20/30	20/60	M							Yes	40	4	3	2
26	Blue	20/20	20/20								Yes	14	8	3	3
22	Brown	20/30	20/20								Yes	20	6	3	3
25	Blue	20/30	20/30		¼						Yes	13	6	2	2
30	Blue	20/30	20/30		½						Yes	38	4	1½	1
20	Brown	20/30	20/30	¼							Yes	20	6	4	2
25	Brown	20/20	20/20			H¼				R1¹		12	6	2	2
24	Blue	20/30	20/30		¼					R ½		16	6	3	2
20	Blue	20/20	20/20								Yes	14	6	2	1
21	Blue	20/20	20/30			H½	1					50	4	1½	1
21	Blue	20/30	20/50			M½					Yes	16	6	2	2
20	Brown	20/30	20/30			M¼		1				8	8	3	2
30	Brown	20/20	20/20				2					50	8	4	3
19	Brown	20/20	20/20					3½				33	15	2	2
44	Blue	20/30	20/30			H¼					Yes	24	6	4	3
24	Grey	20/20	20/20								Yes	18	4	2	2
29	Brown	20/20	20/30		H¼		1			R¼		13	7	2	2
28	Brown	20/20	20/20								Yes	26	6	3	2
30	Hazel	20/40	20/80		H		30+								

10 degrees and under, 17 cases

No of cases	1	6	5	1	4
No of degrees	5	6	8	9	10

Orthophoria	5 cases, 29 4 per cent
Exophoria	10 cases, 58 8 per cent
Esophoria	2 cases, 11 7 per cent

10 to 20 degrees, 51 cases

No of cases	2	8	2	9	8	8	1	6	7
No of degrees	11	12	13	14	15	16	17	18	20

Orthophoria	25 cases, 49 per cent
Exophoria	9 cases, 17 6 per cent
Esophoria	15 cases, 29 4 per cent
Hyperphoria	2 cases, 3 9 per cent

20 to 30 degrees, 22 cases

No of cases	2	3	3	4	4	1	1	4
No of degrees	21	22	23	24	26	27	28	29

Orthophoria	10 cases, 45 45 per cent
Exophoria	5 cases, 22 7 per cent
Esophoria	6 cases, 27 27 per cent
Hyperphoria	1 case, 4 5 per cent

30 to 40 degrees, 6 cases

No of cases	1	1	1	3
No of degrees	32	33	38	40

Orthophoria	3 cases, 50 per cent
Exophoria	2 cases, 33 3 per cent
Esophoria	1 case, 16 6 per cent

50 degrees and over, 4 cases

No of cases	2	1	1
No of degrees	50	52	64

Esophoria	4 cases, 100 per cent

Emmetropia	59 cases	Orthophoria	43 cases
Hyperopia	16 cases	Esophoria	28 cases
Myopia	9 cases	Exophoria	26 cases
Astigmatism	16 cases	Hyperphoria	3 cases
Total	100	Total	100

	Orthophoria	Esophoria	Exophoria	Hyperphoria	Total
Emmetropia	25 42 2 per ct	17 28 8 per ct	16 27 1 per ct	1 1 8 per ct	59
Hypertrophia	7 43 75 per ct	5 31 25 per ct	3 18 75 per ct	1 6 25 per ct	16
Myopia	5 55 5 per ct	1 11 1 per ct	3 33 3 per ct	0	9
Astigmatism	6 37 5 per ct	5 31 25 per ct	4 25 per ct	1 6 25 per ct	16
Total	43	28	26	3	100

In making the tests I sought the power of abduction, adduction, sursumduction and deorsumduction I ascertained the exact condition of phoria, whether orthophoria, esophoria, exophoria, hyperphoria or cataphoria, especially for distant objects, or when the muscles were free from any static influence In testing at the reading distance orthophoria prevailed I took name, age, nationality, color of eyes and condition of refraction, and from the data obtained were formed the following tables

Several others might be made, but these will suffice to show that we have been in error as to the real normal strength of the extrinsic ocular muscles, that this power has been placed much too high, that the text books have been misleading and that the error in following editions should be corrected

REFERENCES TO TABLE

[1] Could not get exact degree of astigmatism

Blind in one eye

[3] Could not bring vision to 20 20

[4] Could not discover trouble with right eye

[5] Could not find degree of esophoria

DISCUSSION ON PAPERS OF DRS SAVAGE AND TIFFANY

Dr G C **Savage**, Nashville—In reference to Dr Tiffany's statement that abduction has been placed too high (at 8 degrees), I want to state that I believe he is in error That we can have more or less abduction we all know, but where is the normal power? Is it at 1 degree or is it at 19 degrees? He did not tell us what was the condition of imbalance, whether esophoria or exophoria There must have been a considerable amount of exophoria in some of his cases How he can have a case with no converging power at all in a case not strabismic, and yet not be able to overcome an abducting prism of any extent, I do not know To my mind, the most complicated study in ophthalmology is a study of the ocular muscles, but I have reached this conclusion, that the study of adduction, per se, does not amount to a row of pins We can ignore it always, because it is such a variable thing But this is not true concerning abduction, sursumduction and deorsumduction I believe 8 degrees is the normal abduction power, and we are pretty well agreed that 3 degrees is practically normal for sursumduction and deorsumduction

Dr J O **McReynolds**, Dallas—I feel that the difference in results obtained by various observers will depend much upon the kind of instruments they employ Dr Tiffany, I understand, has used square prisms, and I believe that method will not give as accurate results as may be obtained with one of the various phorometers The phorometer I employ is an extension of the idea advanced by Dr Risley I have had one made in which I have an arrangement with the ordinary appliances of the Stevens phorometer, spirit level, etc , and two cells containing the Risley prisms, so that I can get any degree of prismatic effect in any direction, and by increments that are infinitesimal It enables me to get the abduction, adduction, etc , as well as the balance I feel sure that before any operation can be made we ought to be in possession of all these facts as well as the constitutional condition of the patient

Dr B **Alex Randall**, Philadelphia—I would like to enter a word of protest as to the matter of making muscle tests, not only to the points brought forward by Dr McReynolds as to the constitutional condition and the instrumental difficulties, but to insist that we shall begin by understanding the fundamental condition, which is the refraction of the eye All tests of the muscles depend, primarily, upon the refraction, and with all due respect to Dr Tiffany or any other man, when I hear of hosts of cases that are emmetropic, I am skeptical as to all the rest I must say, as a result of my investigations, that true emmetropia is almost an unknown quantity, and the varying degrees of hypermetropia and other errors which are ignored in most of these cases, furnish the results and vitiate the conclusions drawn I have yet to see one of the cases (of which Dr Noyes has reported so many) of insufficiency of the sternal muscle I have invariably resolved them into cases of hypermetropic convergence It is impossible, sometimes, to do that at first under a mydriatic, no matter which one is chosen, or how vigorously it is employed, but if it be repeated long enough we will get true refraction, and until that is done, and too often it is not even attempted, or at best, normal vision or lack of palpably magnified ametropia is assumed to show emmetropia, we can not get the muscle balance

Dr Geo M **Gould**, Philadelphia—I want to add one word of hearty commendation to what Dr Randall has said I have made all these tests for eight years, and as a result of that experience, and of gymnastic exercises, I protest against this remark of our friend Dr Savage, that the fact of adduction may be left out of consideration To me, the question resolves itself into this What is the proportion between abduction and adduction? and, furthermore, the existence of symptoms I first correct all ametropia, and that correction is modified by the proportion between abduction and adduction, and after that if the symptoms do not disappear it is time enough to work upon the muscles As to the method, what shall it be? I never, as yet, have had a case of exophoria in which I was not able to develop enough adduction power by gymnastics not only to relieve all symptoms, but to get such power of the eye that there is no difficulty in work The proportion should be 1 to 3 or 4 I try to run the adduction in a case of say [illegible] degrees of exophoria to start with, and [illegible] of add[illegible] up to 60, 70 or 80 degrees, and, if [illegible] do n[illegible]

100 or more degrees, until the eyes positively turn in, and there is sufficient power to do away with all discomfort Esophoria I do nothing with; and I have never seen any one that could do anything with it I have seen cases operated upon without the least result I have one patient, a minister, with 20 degrees esophoria yet he is working every day without difficulty, when his ametropia is corrected

Dr J L Thompson, Indianapolis—I think it is the rarest thing to find an orthophoric individual, and I think the normal condition of the muscles for distance is 1 or 2 degrees of esophoria I believe that is the natural condition of man, just as it is natural for the flexor tendons of the hands to be under some tension

Dr Sampson—This question is of great scientific interest But to the most of us that practice medicine the question is, what can we do for the patient? The more I read about it and try to apply it, the more apparent it is that the question of ductions and phorias has not yet been placed on a distinctly scientific and practical basis

The methods of determining muscle balance are certainly at fault, and any one of them implicitly depended on will not infrequently lead one into error Speaking of converging power, insufficient adduction is certainly responsible for much of the trouble with which we have to deal I have noticed it particularly among school teachers of the female sex, they frequently have exophoria, the converging power not exceeding 10 degrees, while their work requires extensive use of the converging muscles We frequently find them run down in general health and the whole muscular system short on endurance They seem incapable of sustained muscular effort, and the converging eye muscles participate in the disability In many of these cases examination of the urine will show markedly diminished excretion of total solids, and it is surprising to see the effect of copious water drinking and giving attention to the constipation which usually coexists, for as the general health improves, the power of adduction increases and ocular discomfort subsides, often without the use of any of the special means invented for cultivating ocular muscles

The inclusion of patients of this class in the accumulation of statistics would manifestly lead to erroneous conclusions, and from what I have been able to observe it appears to me that any individual presenting muscle anomalies would be pretty thoroughly untangled before his phoria or faulty duction would be counted as an intrinsically local disturbance

Dr Tiffany—The object of this paper was not to discuss the condition of heterophoria, but to establish a normal condition of the muscles, and that I think we have done by an examination of the 100 cases given As I have said they correspond with the results reported by Dr Bannister

RECENT EXPERIENCE WITH ADVANCEMENT OF THE RECTI MUSCLES

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY C H BEARD, M D
CHICAGO ILL

To review the several ingenious theories as to the causes of strabismus, to endeavor to dispose of the intricate and subtle anatomic and physiologic problems pertaining to the imperfectly known branch of ophthalmology, to discuss all the pros and cons concerning the relative merits of tenotomy and advancement, as well as of the methods other than surgical for the treatment of the affection, would be highly agreeable, such, however is not my present intention I have, from time to time, in the past stated my convictions in these matters, and shall on occasion, continue so to do, always striving meanwhile for something better yet, to offer in lieu thereof, not disdaining to iterate and reiterate in accordance with such poor light as we possess for I believe the theme demands it The subject of this paper was suggested to me by the worthy chairman of this Section, and in order to make my report systematic, I have tabulated from my private records about all of the strabismus cases that have come for consultation to my office during the past six years

I have chosen to make the report from private practice because the statistics there are fuller and more available, though I hope ere long to give a compendium of results in this line, referable to the hospital and the dispensary, where the great bulk of my work in this department has been done I shall attempt a partial summary I found that out of the total number of cases that came for consultation in that time 214, or about 4 per cent were cases of strabismus These do not include paralytic nor latent squint Of the 215 cases 142 were of the convergent variety, 70 were divergent and two were mixed, i e, there was convergent strabismus in near vision, and divergence for distance Six of the cases of divergence were secondary or operative ones

Of the 142 convergence cases, in 74 the left was the squinting eye, 17 alternated, and in 51 the right eye turned In 18 the squint was intermittent or periodic when first seen

Of the 70 cases of divergence, in 29 the left eye deviated, in 15 the eyes alternated, and in 26 the right was the squinting eye Ten of these were intermittent I may remark in passing that in the beginning most of them are intermittent

Of the 142 cases of convergent strabismus the refraction of both eyes was hyperopic in 114, both myopic in 6, antimetropic in 2, and emmetropic (or practically so) in 20

Of the 70 cases of divergent strabismus the refraction of both eyes was hyperopic in 38, myopic in 16, mixed in 2, antimetropic in 3 and emmetropic in 11 Deducting the six secondary cases, gives us exactly twice as many cases of divergent strabismus associated with hyperopia as with myopia, a significant point in studying the causes of strabismus

Of the 114 cases of convergent strabismus with hyperopia of both eyes the error amounted to three or more dioptrics in 63 Of the 6 cases of convergence with myopia the latter was three or more dioptrics in 4

Of the 38 cases of divergent strabismus, associated with hyperopia of both eyes, the degree of the hyperopia was three or more dioptrics in 9 cases Of the 15 cases of divergent strabismus with myopia in both eyes it was three or more dioptrics in 8

Of the 214 strabic patients 78 were under 15 years of age, 101 between 15 and 30 years, and 35 were over 30 There were 129 females and 85 males The angle of the squint, or, rather, the angle of the optic axis of the squinting eye to the right optic axis of the working eye ranged from 12 to 65 degrees

Of the 214 cases 158 received treatment in some form In many instances this began and ended with the fitting of a pair of glasses Fifty-six were not treated at all, having come merely for examination and consultation Out of the 158 patients treated 70 had one or both muscles advanced, the second muscle

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Note —Owing to the limited time, this paper was read by title and at the request of the President of the Section, the allotted time was occupied by its author in describing his advancement operation The accompanying discussion, therefore, has reference to said description having been brought forward in about 12 per cent of the cases The operation was for convergent strabismus in 50 of the cases, and for the divergent form in 20, or in other words, of 81 advancements on these 70 patients 57 were of the externus and 24 of the internus The inferior rectus was advanced once after correction of the lateral deformity Of all the advancements only three were for alternating strabismus, two convergent and one divergent alternating

Of the 70 patients to have their strabismus corrected by advancement, just one-half the number had a high degree of amblyopia in the squinting eye, with fair to good vision in the fixing eye Thirteen had 20/20 in both eyes Thirteen had 20/30, and ranged from 20/30 to 20/50 This is the corrected vision In the rest (2) the sight was not determined The vast majority of patients who had advancement ranged in age from 15 to 30 years, that period of life during which the duty of looking one's best is most imperative

In 32 cases the strabismus yielded to atropin and glasses, in nine more cases to glasses together with persistent and systematic orthoptic training with prisms, the stereoscope, etc The corrected visual acuity in the 41 cases whose squint was righted by other than surgical means, amounted for both eyes in 18 instances to 20/20, in 15 to 20/30, and in 1 to 20/50 One eye was highly amblyopic in 5, and in 3 the sight was not definitely ascertained

Thus, out of 158 cases treated in some measure a cure was accomplished in 111, leaving 47 who are either reporting from time to time or have wandered off Were I not so strongly opposed to the operation of tenotomy, excepting for its effect in combination with that of advancement, I might not now have the satisfaction of reporting these 41 cures of strabismus accomplished without surgical interference, for I believe that the very ease and facility with which that operation is performed, and the comparatively little inconvenience to the patient which it occasions, has led to its abuse We should not lose sight of the fact that surgery is only one of the means toward the end in question

I find that, as time goes on, I make relatively fewer advancements on the other eye Not that I have changed my views as to the beneficial effects of double advancement, but chiefly because of the difficulties or the obstacles in the way of bringing the patient to submit to the second operation I have, therefore, in the more recent operations, been striving for greater effect at once

Donders was unquestionably right in asserting that strabismus is essentially a binocular affection The tests of motility and fixation in a vast majority of the cases will show limitation in the direction opposite to that of the squint in both eyes Hence, were it practicable always to have one's choice in the matter, I believe it would be better to make a moderate advancement of the corresponding muscle in each eye, than to confine all to one It is true, in one sense, that what we do toward changing the position of one eye is done also to the other, so that while it is feasible to correct the strabismus by operating on only one eye the squinting eye, for instance, in the constant monolateral form and on the worse eye, if there be a difference, in the alternating variety, I do not, however, regard the procedure as strictly scientific The increased tension put upon a muscle by a properly gauged advancement is a means of putting new life and vigor into it, but there is a limit, beyond which the stretching of the muscle should not be carried Even granting that we right the deformity by a single operation, and without drawing up the muscle too tightly, the improved tone of the operated muscle is only in a measure imparted to its fellow of the opposite eye, and the result is somewhat one sided after all For these reasons, when the faulty muscle of each is proven to be markedly inefficient, I give the patient plainly to understand that two advancements will be necessary It will be observed that it is not so much the degree of the squint which is taken as the criterion for the extent of the advancement, as is the strength, or weakness, if you choose, of the offending recti, some of the very slight deviations often requiring a most decided moving forward of the tendon Again, it is not uncommon to find that the eye which habitually squints is possessed of the better muscular system of the two Under such conditions, the vision being equally good in both eyes, and only one operation being contemplated, it is good practice to make the advancement on the working eye I would deem it advisable, always, where exists a pronounced difference in the strength of the faulty muscles, to allow this, and not the deviation, to determine which eye should be operated upon, were it not for the fact that the squinting eye is so often but poorly endowed with vision It is the dread of that possible mischance In careful hands there is no safer operation made than this, yet eyes have been lost from slighter things, and one can not ignore the possibility, be it ever so remote Especially is this applicable in dispensary practice, where many irresponsible patients may be expected to go into homes and surroundings which are not calculated to favor the traditional "uneventful recovery,' and to report back to the surgeon at their own sweet will

In all of my experience, however, in the management of several hundred advancements on hospital and dispensary patients, I have had to contend with but one eye that gave any cause for uneasiness It was that of a young man treated at the North Star Dispensary, who reported on the fourth day after the operation with suppurative tenonitis, beginning at the site of the advancement He was put at once into the hospital, the thread removed, and by vigorous measures the process was arrested before anything really serious occurred It will be observed that this operation means advancement in the true sense of the word in that it gives a new insertion for the tendon, nearer to the cornea than the original one Many of the so called advancements consist merely of a shortening, inasmuch as they do not move the insertion at all Even though a small section of the tendon may be removed, the quality of the operation is not altered Often, in the early stages of healing, the tendon can be clearly seen firmly adhering to the globe forward of its former place of attachment But to attempt to regulate to the millimeter the exact point at which this union of the tendon with the globe shall occur, as some operators assume to do, is surely an illusion By exercising care in obtaining firm holds for the thread, both in the tendon and in the places of anchorage above and below the cornea, we may be confident of a positive and permanent advancement, but gauge it to a mathematical nicety w[illegible] not As Landolt has neatly said, "Nature d[illegible] us if we make [illegible] ment help, neglect it [illegible] allow[illegible] ping back [illegible] er-c

Number	Age	Convergent and which eye	Divergent and which eye	Other forms	Degrees	Vision at first visit		Corrected vision		Refraction		Treatment and result	Remarks
						O D	O S	O D	O S	O D	O S		
1	26		O D	S'con'y	50	Fingers/2	20/30	3/200	20/15	−1.5 cyl., ax 165	+1.5 cyl ax 90	Advt right internus result perfect	The capsule of T was advanced with muscle
2	26	O S			40	20/30—	4/200	20/20—	12/200	+2 D	+5	Fitted glasses	
3	12	Alter'g			45, varies	20/20—	20/200	20/20	20/20	+1	−1.5	Fitted glasses	
4	17	O D			55	20/200	20/30—	20/100	20/20	+3 s ⊃ +2c ax 90	+1.5s ⊃ +0.625c ax 120	Advt right externus result perfect	Three years later result still perfect
5	4	O D			50	20/200	20/20	20/200	20/20	+3	+2	Advt right externus, result perfect	
6	23		O S	Int'mit	Varies	20/20	20/20			E	E	Fitted glasses	
7	8	O D			45	20/50	20/30	20/50	20/30	E	E	No treatment	
8	8	O D			50	8/200	20/50	8/200	20/50	E	+3.5	No treatment	Remains of hyaloid artery in right
9	6	O S		Int'mit	40					+5	+5	Fitted glasses	Eyes straight with glasses
10	22	O S		Int'mit	45	20/40	20/40—	20/20	20/20	+6.5	+6	Fitted glasses	
11	30	O S			50	20/200	10/200	20/20	20/50	+4.5s ⊃ +0.75 c ax 25	+7	Fitted glasses	
12	20	O S			45	20/20—	20/40+	20/20	20/30+	+2.25 s ⊃ +0.50 c ax 5	+2s ⊃ +0.50c ax 180	Pres glasses	
13	44	Alter'g			40	20/30—	20/30—	20/20—	20/20—	+0.50s ⊃, +0.50c ax 135	+0.50s ⊃, +0.5c ax 90	Pres glasses	Strabismus still exists
14	49		O D		45	20/30—	20/50	20/20	20/20	+0.50 c ax 90	+1.5	Pres glasses	
15	11	O D			50	5/200	20/30	20/200	20/20—	+4	+4	Pres glasses	
16	16	O S		Upw'd	55	20/50	15/200	20/20	12/200	+1.5	+1.5	Advt left internus result perfect	Upward squint also corrected by this operation
17	30		O S		45	20/30	15/200	20/20	20/70—	+0.50 c ax 180	+5.5	No treatment	
18	7		O D		35	7/200	20/70	7/200	20/70	E	E	No treatment	Central absence of choroid in both eyes
19	19		O S		45	20/20—	20/200	20/20	20/200	E	+1	Advt left externus result perfect	
20	13		O D		20	6/200	8/200	20/100	20/50	+7 s ⊃, +1 c ax 90	+4.5 s ⊃ +2c ax 90	Pres glasses	Later vision shows improvement
21	17		O S		35	20/20	1/200	20/20	1/200	E	E	Iridectomy advised	Closure of left pupil from injury
22	27	O S			50	20/40—	20/100	20/30—	20/100	+3	+4	Pres glasses	
23	13½	O D			Varies	5/200	20/50	5/200	20/20—	+5.5	+5.5	Pres glasses	Eyes straight with glasses
24	41	O D			45	20/40—	20/30	20/30—	20/20	+0.75s ⊃ +0.50c ax 180	+0.75 s ⊃ +0.50 c ax 180	Pres glasses	
25	22	Alter'g			Varies	20/20—	20/20—	20/20—	20/20—	E	E	Advt left externus result perfect	
26	41		O S		45	20/100—	20/200	20/70	20/70—	−1 s ⊃ +2 c ax 45	−1 s ⊃ +2 c ax 135	Pres glasses	Advised operation
27	17	O S				20/20—	20/20—	20/20	20/20	+0.50s ⊃ +0.50c ax 75	+0.50s ⊃, +0.50c ax 115	Advt left externus result perfect	
28	11	Alter'g				20/15	20/15			E	E	No treatment	
29	27		O D			20/100	20/100—	20/70	20/50	+2	−1 s ⊃ −1 c ax 90	Pres glasses	
30	21		O D		45	20/200	20/100	20/30	20/20	−2 s ⊃ +2.5 c ax 125	−2	Advt both interni result perfect	Operations two months apart
31	7	O D			45	20/20—	20/20	20/20—	20/20	+1	+1	Advt right externus result perfect	
32	21	O D			35	3/200	20/20—	3/200	20/20	+2.5	+2.5	Advt right externus, result perfect	
33	11	O S			40	20/20	4/200	20/20	8/200	+2.5s ⊃, +1 c ax 90	+4	Advt left externus, result perfect	
34	27	O S			30	20/100	4/200	20/40	4/200	+3.5 c ax 90	+3.5 c ax 90	Advt left externus, result perfect	
35	7	O S			45					+4	+4	Pres glasses	One year later eye straight with glasses
36	22	O S			35	20/40	20/200	20/20	20/40	+1.5s ⊃ +1.5c ax 90	+2 s ⊃, +2 c ax 90	Pres glasses	6 mos later eyes straight with glasses
37	7	O D			45	20/70	20/50	20/50	20/40	+2	+2.5	Pres glasses and massage	Punctate opac of cornea advised oper
38	37	O D			50	Percep light	20/20		20/15		+0.50s ⊃ +0.50c ax 90	Advt right externus result perfect	Closure of rt pupil from injury in childhood advised iridectomy, declined
39	40	O D		Int'mit	45 in accom	20/30—	20/30	20/20—	20/20	+1s ⊃ +0.50 c ax 135	+0.75s ⊃ +0.50c ax 45	Pres glasses	
40	19	O S			40	20/20—	20/30—	20/20—	20/30—	+1	+2	Advt left externus, result perfect	
41	12	O D			50	20/70+	20/50	20/50	20/30	+2	+2 s ⊃ +1 c ax 85	Pres glasses	
42	33	O D			45	6/200	20/20—	6/200	20/20	+1	+1	No treatment	Central atrophy and pigment degeneration right choroid
43	13½	O D			35	20/30	20/20	20/20—	20/15	+2.5s ⊃, +0.50c ax 90	+2s ⊃ +0.50c ax 95	Pres glasses	Still under observation
44	23		O S		45	20/20	20/200			E	E	No treatment	
45	29	Alter'g			Varies	20/30—	20/30—	20/20	20/20	+5.5	+6.5	Pres glasses	Eyes straight with glasses
46	20	O S			40	20/50	20/70+	20/40	20/50	+3	+3.5	Pres glasses	
47	26	O D			25	20/20	20/20—			E	E	No treatment	
48	21	O D			40	20/100	20/40	20/100	20/30	+5	+5	Pres glasses	
49	2	O S			50					+3	+3	No treatment	Advised to wait till child is older
50	29	O S			50	20/20	20/30—			E	E	No treatment	
51	5	O S			50	20/20	20/30—			E	E	No treatment	
52	43	O S		Int'mit	Varies	20/70—	3/200	20/20	3/200	+4	+7	Pres glasses	
53	8	O S			35	20/30—	20/30—	20/20	20/30	+4	+5	Pres glasses	Eyes straight with glasses
54	15	O S			55	20/20	20/200	20/20	20/200	+2	+2	Advt left externus, result perfect	
55	26	O S			Varies	20/40	20/70	20/30+	20/30—	+1s ⊃ +0.50c ax 120	+2 c ax 75	Pres glasses	
56	7	O S			50	20/20—	20/40+	20/20—	20/30	+2	+2.5	Pres glasses	
57	46		O S		20 and more	20/30	20/30	20/20	20/20	−0.50 c ax 180	−0.50 c ax 180	Pres glasses	One yr later eyes straight with glasses
58	5		O S	Int'mit	Varies					+2	+2	No treatment	
59	24	O S			45	20/30—	8/200	20/20—	8/200	+4 s ⊃, +0.75 c ax 135	+4	Pres glasses	
60	22	O S			50	20/30	20/30			E	E	No treatment	Four years after straight central coloboma left choroid
61	2	O S			25					+4	+5	Straight under atropin	
62	6	O D			45	20/20	20/20			E	E	Advt right externus result perfect	
63	4	O S			35					+2	+3	Advt left externus result perfect	
64	6	O S			45					+3.5	+3.5	Advt left externus, result perfect	
65	9	O D			30 to 50	20/100	20/50—	20/70	20/30	+4.5s ⊃, +1.5c ax 90	+5.5s ⊃ +1.50c ax 90	Pres glasses	3 yrs later eyes straight with glasses
66	18		O D		45	1/200	20/100—	12/200	20/30	+15 D, aphakia	+5 cyl ax 90	Advt right internus result perfect	Traumatic cataract of rt removed before squint operation
67	22		O S	S'con'y	45	20/20	20/30—	20/15	20/20	+0.5 s ax 180	−0.75 c ax 180	No treatment	
68	28		O D		50	3/200	20/10	20/200	20/30—	−15 D	−1	Advt right internus result perfect	
69	5	O D		Upw'd	55	3/200	20/20	3/200	20/20	+1.5	+1.5	Advt both exter 1 yr apart good rslt	Last advt made with curved tenotomy of rt sup rect for upward deviation
70	21	O S			60	20/20—	20/40—	20/20—	20/30—	E	E	Advt left externus, result perfect	
71	27	O D			45	20/200	20/50—	20/50	20/50	+3 c ax 90	+3 c ax 90	Advt both externi result perfect	Marked improvement of vision of right eye after operations
72	53		Alter'g		40	20/200	10/200	20/20	20/20	−4	−4	Pres glasses	
73	8	O D			35	20/200	20/100	20/50	20/50	+3.5	+4	Pres glasses	1 mo later eyes straight with glasses

71	26	O D			50	20/100	20/70	20/20	20/20	−1.5	−0.50s ⊃, +1.75c ax 105	Advt right externus, result perfect	
75	17		O D		45	1/200	7/200	20/70	20/70	−10	−10	Pres glasses	
76	7	Alter'g			Varies	20/20	20/20			+6.5	+6.5	Pres glasses	Eyes straight with glasses
77	17	O D			15	20/20−	5/200	20/20−	5/200	+1	+2.5	No treatment	
78	8	O S			50	20/20	20/30			+1.75	+1.75s ⊃ +1c ax 90	No treatment	
79	3	Alter'g			Varies	20/20−	20/20−	20/20	20/20	+1.35	+4	Pres glasses	Eyes straight with glasses
80	10		O D		10	0	20/20			E	E	No treatment	Congenital atrophy of rt optic nerve
81	20	O D			50	20/100	20/20−			E	E	Advt right externus, result perfect	
82	25	O S			35	20/20−	3/200	20/20	3/200	−0.5c ax 90	−1.5	No treatment	
83	20	O S			35	20/30	20/40	20/70	20/40	+3.5	+4	Advt both externi result perfect	
84	50	O S			60	20/20−	20/100−	20/20	20/40−	+1.5	+1.5	Advt left externus result perfect	
85	28		O D	S'con'y	15	20/70	20/20	20/20−	20/10	+1s ⊃ +1c ax 135	+0.75s ⊃, +0.50c ax 180	Advt right externus, result perfect	
86	16	O S			Varies	20/40	20/40	20/20	20/20	+5	+5	Pres glasses	4 yrs after eyes straight with glasses
87	28		O D,		25 and more	1/200	20/30−	20/40	20/20+	−0.75s ⊃, −1.5c ax 180	−0.75c ax 180	Pres glasses	
88	4	O S			15	20/20	20/30−	20/20	20/20	+3.5	+4.5	Pres glasses	5 yrs after eyes straight with glasses
89	25	O S			20 varies	20/70	20/70−	20/20	20/40−	+2.5s ⊃ +0.5c ax 90	+3	Pres glasses	4 yrs after eyes straight with glasses
90	12		O S		45	10/200	5/200	20/30	20/100	−16	−18	No treatment	
91	1½	O S			50	Good in rt, can see penny in left				E	E	No treatment	
92	27		O S		40	20/20	Percep light			E		No treatment	Traumatic cataract in left eye
93	12		O D		50	5/200	5/200	20/70	20/70	+10	+10	Advt both interni result perfect	See note 1
94	16	O S		Int'mit	Varies	20/50+	20/50−	20/20−	20/40+	+3.5s ⊃ +2.5c ax 60	+3.5s ⊃ +2.5c ax 120	Pres glasses	Eyes straight with glasses
95	37	O D			53	20/200	20/30−	20/40	20/20	+4s ⊃ +1.5c ax 90	+4s ⊃, +1c ax 78	Advt right externus result perfect	Three years later result still perfect,
96	13	O S			Varies	20/70	18/200	20/30−	18/200	+5s ⊃ +0.75c ax 90	+5s ⊃ +1c ax 90	No treatment	
97	31		Alter'g		Varies	20/30	20/30	20/20	20/20	+0.5c ax 90	+0.5c ax 90	No treatment	
98	17 12	Alter'g			Varies					+4	+5	No treatment	Advised to wait till child is older
99	21	O S		Int'mit	10 to 50	20/70−	20/70	20/30	20/20−	+1.5s ⊃, +2.5c ax 102	+2.5s ⊃, +2.75c ax 82	Pres glasses	
100	5	O S		Int mit	15 to 50					+4	+5	No treatment	
101	22	O D			12 to 20	20/30	20/30	20/20	20/20	+2	+2	Advt right externus result perfect	Tenotomy of both interni 5 yrs ago for esophoria
102	27	O S			20 to 50	20/30−	20/200	20/20	20/50	+3	+3.5	Advt left externus, result perfect	
103	18	O S			15	20/70−	20/70−	20/30	20/30	+6s ⊃ +1c ax 90	+6s ⊃ +1.5c ax 90	Advt left externus, result perfect	
104	25		O S		50	20/50−	20/200	20/20−	20/20	−1.5c ax 90	+1.5c ax 30	Advt both interni, result perfect	
105	8	O D			45	20/70	20/30−	20/70−	20/15	+4	+5	Pres glasses	Still considering operation
106	18		O S		20	20/30	20/30−	20/20+	20/20	+3s ⊃ +0.75c ax 95	+4s ⊃ +0.75c ax 65	Advt both interni result perfect	
107	9	O S			15	20/20	20/30	20/20	20/30	+4	+4	Advt left externus result perfect	
108	5½	Alter'g		Int mit	35 and more	20/200	20/200	20/20	20/30	+3.5	+3.5	Pres glasses	5 yrs later eyes are straight, w glasses
109	23	O D			50	1/200	10/200	1/200	21/40	−5	−6s ⊃ −2c ax 180	Pres glasses	
110	21		O D		20	20/20−	20/20	20/20	20/20	+0.5c ax 125	+0.25c ax 90	Advt both interni(?) result good	
111	12	O D			20	20/30	20/30	20/15−	20/15−	+0.75	+0.75	Pres glasses and prism gymnastics	5 yrs after eyes are straight w glasses
112	15		O S		12 to 35	20/20−	20/40−	20/20	20/30	+0.5s ⊃ +0.5c ax 90	+2.5s ⊃ +1c ax 105	Pres glasses	Apparent correction of strabismus with glasses
113	8		O D		45	20/200	20/40−	20/200	20/20	−1c ax 10	−0.75c ax 170	Pres glasses	
114	23		O D		50	20/40	20/30−	20/30	20/20	+0.5c ax 45	+0.5c ax 135	No treatment	
115	7	O D			25	20/50−	20/30−	20/30	20/20	+0.5s ⊃ +1.5c ax 90	+1s ⊃ +1.5c ax 90	Pres glasses	Eyes are straight with glasses
116	12	O S			50	20/20	20/50			E	E	No treatment	
117	23		O D	Int'mit	25 to 35	20/50−	20/30+			L	E	Advt right internus, result good	
118	34	O D			50	20/200	20/40−	20/50−	20/20−	+6	+4s ⊃, +0.75c ax 90	Pres glasses	Squint still exists
119	27		O S		15	20/70−	4/200			E	E	No treatment for strabismus	Old corn opac from interst keratitis
120	5	O S			15 to 50	20/20−	20/70	20/20	20/70	+4	+5	Pres glasses	8 mos after str w glasses, not without
121	7½		O D	S cond	45	20/200	20/100	20/200	20/20−	+4	+4 cyl ax 90	Advt right internus, result perfect	15 months after eyes still correct
122	30	O D			55 to 60	20/100	20/20	20/100	20/20	Hyperopic As	E	Advt right externus, result perfect	
123	11	O S			35 to 45	20/70	20/70	20/20−	20/20−	+1.25s ⊃ +0.5c ax 90	+1.25s ⊃ +0.5c ax 90	Pres glasses	Eyes are straight with glasses
124	40	O D		In acc	15	20/30−	20/20−	20/20−	20/20	+0.5c ax 90	+0.5	Pres glasses for near vision	See note 2
125	13	O D			35	20/200	20/20−	20/70	20/20	+1s ⊃ +3.5c ax 90	+4.5	Pres glasses	
126	12	O D		Upw'd	[illegible]	4/200	20/20			E	E	See note 3	This was a case of congen strabismus
127	13	O D			15	10/200	20/50	20/70−	20/30	−3	−0.5s ⊃ −1c ax 65	Pres glasses	Condition improved by glasses
128	12	O S		Int mit	30 to 40	20/40	20/40−	20/20	20/20	+1.5s ⊃ +0.5c ax 15	+1.5s ⊃ +0.5c ax 135	Pres glasses	For 5 years has not squinted w glasses
129	4		Alter'g	Int mit	Varies	20/100	20/100	20/15	20/15	−2s ⊃ −0.5c ax 180	−2s ⊃ 0.5c ax 180	No treatment	
130	[illegible]	O D			Varies	20/20−	20/20−	20/20	20/20	+1s ⊃ +0.5c ax 120	+1s ⊃ +0.5c ax 45	Pres glasses	
131	[illegible]	Alter'g			50 or more	20/20+	20/20+	20/20	20/20	+2.5	+3	Pres glasses	
132	12	O D			50	20/20−	20/50+	20/20	20/20+	+2.5s ⊃ +0.75c ax 90	+2s ⊃ +0.75c ax 115	Advt right externus result perfect	
133	11	O S		•	30 to 50	20/20	15/200	20/20	15/200	+2	+4	Advt left externus result perfect	
134	[illegible]	O S			[illegible]	20/20	20/40			E	E	Advt left externus result perfect	Seen 2 years later eyes in perfect condition
135	[illegible]	O D			35 and more	20/70	20/50	20/30−	20/30	+2s ⊃ +1.75c ax 110	+2s ⊃ +1.75c ax 70	Advt right externus	5 yrs after no strabismus, has not worn glasses for years
136	4	Alter'g		Int mit	Varies					+4	+4	Pres glasses	
137	[illegible]		Alter'g	Int mit	30 and more	20/20	20/20	20/15	20/15	+0.5s ⊃ +0.5c ax 90	+0.5s ⊃ +0.5c ax 90	Pres glasses and orthoptics	3 yrs later complete relief
[illegible]	[illegible]		O S		40	10/200	10/200	20/20−	20/50+	[illegible]	−4	Pres glasses	
[illegible]	[illegible]		Alter'g		Varies	10/200	10/200	20/30	20/50	−6s ⊃ −0.75c ax 115	−6s ⊃ −0.75c ax 65	Pres glasses	
[illegible]	10	O D		Int mit	Varies	20/300	20/70	20/70	20/40	+5s ⊃ +1c ax 90	+6.5s ⊃ +1c ax 90	Pres glasses	
[illegible]	31	O S			Varies	20/30	5/200	20/20−	5/200	+0.5s ⊃ +0.5c ax 15	+1.25	Pres glasses	3 yrs later eyes straight w glasses
[illegible]	[illegible]		Alter'g	Int mit	25 and more	20/20	20/20	20/15	20/15	+0.5	+0.75	Pres glasses	
[illegible]	[illegible]		O S		[illegible]	20/30+	20/30+	20/20+	20/50+	+1	+0.5	Pres glasses	
[illegible]	[illegible]		O D		40	5/200	20/70	5/200	20/30	−5	−5 cyl ax 20	Advt right internus	Result perfect
[illegible]	[illegible]		O D	Int mit	25 and more	20/20	20/20+	20/20	20/15	+0.5s ⊃ +0.5c ax 90	+0.75s ⊃ +0.25c ax 90	No treatment	
[illegible]	[illegible]		O S		15	20/70	4/200	20/20	4/200	+3.5s ⊃ +1.5c, ax 100	+5	Pres glasses	
[illegible]	[illegible]		O D		40	Percep light	20/20			E	E	No treatment	
148	8	O S			Varies	20/40	10/200	20/50−	20/100	+4s ⊃ +2c ax 70	+4s ⊃ +2c ax 110	Pres glasses	
[illegible]	[illegible]	Alter'g			30 and more	20/40	20/40−	20/20−	20/20−	+1.5	+1.5	Pres glasses	5 yrs later eyes straight, does not wear glasses
[illegible]	13	O D			15 to 20	20/30	20/30			E	E	Advt of both externi result good	
[illegible]	8	O S			35	20/20	20/50	20/20	20/30	+2	+3.5	Pres glasses	5 yrs later eyes straight, wears glasses
[illegible]	[illegible]		Alter'g		30 and more	20/20	20/20			E	E	No treatment	
[illegible]	[illegible]	O S			30	10/200	10/200−	20/50−	20/50	+6	+4	Advt both externi result good	

Number	Age	Convergent and which eye	Divergent and which eye	Other forms	Degree	Vision at first visit		Corrected vision		Refraction		Treatment and Result	Remarks
						O D	O S	O D	O S	O D	O S		
154	20		O S		18 and more	20/30	20/30—	20/20	20/20	+0.75 cyl, ax 75	+0.75 cyl, ax 135	Pres glasses	
155	22	O S			50	20/20	20/40			E	E	No treatment	
156	33	O S			50	20/20	7/200	20/20	20/200	+1.5	+2.5	Pres glasses	
157	32		Alter'g		20	20/20—	20/20—	20/15	20/15	+0.5 c, ax 45	+0.5 c, ax 135	No treatment	
158	17		Alter'g	Int'mit	12 to 20	20/30	20/30	20/20	20/20	+0.5 s ⊃, +0.5 c ax 90	+0.5 s ⊃ +0.5 c ax 90	Pres glasses	2 years later eyes are correct
159	30		O S		50	20/200	3/200	20/20	3/200	−3	−3	Advt left internus result perfect	
160	21	O D			35	1/200	20/20—	3/200	20/20	+3	+0.75 s ⊃ +0.25 c ax 90	Advt right externus, result perfect	
161	6		O S		30 and more	20/30	20/70—			+1	+1	Advt left internus result good	6 months later most satisfactory
162	18		Alter'g		20	20/30—	20/30	20/20	20/20	+0.5 cyl ax 00	+0.5 c, ax 90	Pres glasses and prism exercises	Result perfect
163	41		O S		30	20/20—	20/40	20/20	20/20	−0.5	−0.75	Pres glasses and prisms	5 yrs later mus anomaly disappeared
164	39		O D		18 to 30	20/50	20/40—	30/30	20/20—	+0.5 c ax 90	+0.5 c, ax 90	Pres glasses and prism exercises	
165	5½	O D			45	20/20	20/20			+4	+3	Pres glasses	5 yrs later eyes straight with glasses
166	16			Mixed	30 to 45	20/20	20/20			E	E	See note 4	
167	11	O D			50	20/70—	20/30—	20/40—	20/20—	+2 s ⊃ +1 c ax 90	+2.5 s ⊃ +0.5 c ax 90	Pres glasses	3 mos later eyes straight w glasses
168	3	O D			35	20/20	20/20			Oph shows eyes to be	emmetropic	Atropin	See note 5
169	10	O S			60	20/30	20/70—	20/30—	20/70+	+1.25 s ⊃ +0.5 c ax 180	+5	Advt left externus result perfect	6 years after still perfect
170	40		O S	Also up	35	20/100	20/70—	20/30—	20/30—	+3.5 s ⊃ +1 c ax 45	+2.5 s ⊃, +0.75 c ax 135	Pres glasses	
171	21		O S	S'cond	12 to 20	20/20	20/20—			+1	+1.25	No treatment	
172	36		O D		14	20/100	20/100	20/40—	20/40	+2.5 s ⊃ −4 c ax 20	+2.5 s ⊃ −3.5 c ax 180	Pres glasses	
173	22		Alter'g		15 and more	20/20	20/20			+0.5	+0.75	Advt both interni, result perfect	Had previously had tenot both externi
174	20	Alter'g			Varies	20/20—	20/20—	20/20	20/20	+0.5 c, ax 90	+0.5 c, ax 90	Pres glasses	
175	18		O D		30	10/200	20/20—	20/200	20/20	+5	+1	Advt right externus result perfect	4 yrs after eyes are correct
176	41	O D			45	5/200	10/200	20/70—	20/50+	−16	−16	Pres glasses	
177	25		O S		Worse for nr	20/70—	20/70—	20/40	20/40—	−1 c, ax 90	−0.5 s ⊃ −1 c ax 90	Pres glasses	After 1 year less divergence
178	27	O D		Int'mit	20 and more	20/50	20/40—	20/20	20/20—	+3.5 s ⊃, +2.5 c ax 90	+4 s ⊃ +2.5 c ax 80	Pres glasses	
179	12	O S			40	20/70	20/200	20/30	20/70—	+6	+4 cyl, ax 90	Pres glasses	
180	15		O D		35	O	20/20				E	No treatment	Traumatic cataract in right eye
181	25	O S		Int'mit	Varies	20/40—	20/40—	20/20	20/20	+2.75 s ⊃ +1 c ax 45	+2.75 s ⊃ +1 c ax 135	Pres glasses	
182	24		O S		20	20/20	20/30	20/15	20/20	+0.25 c ax 90	+0.25 c, ax 75	Pres glasses and orthoptics	After 6 months there is orthophoria
183	21	O S			50	20/30+	20/70—	20/20	20/50	+5	+5	Advt both externi, result perfect	3 years after eyes are still correct
184	30	O D			45	20/30	20/20			+1	+1	Advt right externus, result perfect	
185	35		O S		40	20/20	20/70—		20/50	E	E	Advt both interni, result perfect	
186	5	O D			45	20/100	20/50	20/100	20/15	+6	+5	Pres glasses	6 yrs after eyes correct with glasses
187	46	O D			55	20/200	20/100	20/30	20/20	+3.75	+2.75	Advt right externus, result perfect	
188	40	O D			45	O	20/20			O	L	No treatment	Traumatic cataract in right eye
189	14	O D			40	20/100	20/30—	20/30—	20/20	+5 s ⊃ +2 c ax 90	+3.5 s ⊃ +1.5 c ax 90	Advt right externus	
190	26	O S			55	20/100	18/200	20/40—	20/100	+1 cyl, ax 75	+1 c, ax 90	Advt both externi, result perfect	
191	28	O D			35	20/200	20/70—	20/30—	20/30	−3 cyl, ax 135	−1.5 s ⊃ −2.5 c ax 45	Pres glasses	
192	40		O D	Down	Varies	20/50+	20/30	20/50	20/20	+0.75 c ax 90	+0.75 c, ax 90	Pres glasses	
193	25	O S			45	20/30+	20/200	20/20	20/40	+4.5 s ⊃ +0.5 c ax 90	+5	Pres glasses	Eyes correct, wearing glasses
194	20		Alter'g		20	20/30—	20/30—	20/20	20/20	+1.25 s ⊃, +0.5 c ax 180	+1.5 s ⊃, +0.5 c ax 180	Pres glasses	
195	8	O S			25	20/30	8/200	20/30	8/200	+4	+5	Pres glasses	Eyes straight wearing glasses
196	6	O D			45	20/200	20/50	10/200	20/20	+6	+6	Pres glasses	Eyes straight, wearing glasses
197	52	O D			35	10/200	20/30	10/200	20/20	+?	+0.5 s ⊃ +0.5 c ax 90	Pres glasses	
198	12	O S			45	20/20	20/40			E	E	Advt left externus result perfect	
199	18		O D		35 to 40	10/200	20/30—	20/100	20/30	+2 s ⊃ +3 c ax 90	+0.75	Pres glasses	
200	49	Alter'g			Varies	18/200	18/200	20/20	20/20	+6 s ⊃ +1.25 c ax 180	+6 s ⊃, +1.25 c ax 180	Pres glasses	
201	32	O D		Int'mit	Varies	10/200	15/200	20/40+	20/20	+5.5 s ⊃, +0.75 c ax 90	+6	Pres glasses	Squint more appar in accommodation
202	14	O D		Int'mit	Varies	20/200	20/100	20/20	20/15	−1.5 s ⊃, −0.5 c ax 180	−1.5	Pres glasses	Squint very marked in accommodation
203	10	O S		Int'mit	Varies	20/40	20/50—	20/20—	20/30—	+3	+3	Pres glasses	
204	26		Alter'g	Int'mit	Varies	20/100+	20/70	20/40	20/40	+2.5 cyl, ax 60	+2 cyl, ax 130	Pres glasses	There are Fuch's colobomata of nerve heads
205	24	O S			50							No treatment	
206	13		Alter'g		40	10/200	10/200	20/50	20/50	+1 s ⊃ +5 c ax 90	+1 s ⊃ +4 c ax 90	Advt both interni, result perfect	
207	14	O D			Varies	20/70	20/20	20/30	20/15	+2 s ⊃, +0.75 c ax 90	+0.5 c ax 90	Pres glasses	Eyes are straight, wearing glasses
208	23	O S			55	20/20	10/200			E	E	Advt left externus result perfect	
209	25	O S			47	20/20	20/200	20/20	20/100	+3	+3	Advt left externus result perfect	
210	23	Alter'g			20 and more	20/200	20/200	20/20	20/20	+5	+5	Pres glasses and orthoptics	Vastly improved by glasses as to squint
211	20	O S			25	20/70	5/200	20/30	20/200	+2 s ⊃, +2.5 c ax 180	+2	Pres glasses	
212	14		O D		35	3/200	20/70—	20/50—	20/30	−13	−1 s ⊃, −1 c ax 90	Pres glasses	
213	67		O D		35	20/70+	20/50—	20/50	20/50	+1.5	+1.5	No treatment	
214	66		O S		45	5/200	2/200	20/20	20/30	+12	+10 s ⊃, +3 c ax 15	Pres glasses, squint disappeared	See note 6

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[1] I removed congenital capsular cataract from both eyes in this case when the child was less than 2 years of age

[2] There is paresis of the accommodations, requiring +3 for near vision These glasses prevent squint

[3] Advt right externus, curbed tenotomy right internus advt (later) of right inferior rectus, result perfect

[4] Advt right externus tenotomy all outer portion of right superior rectus

[5] After using drops one month eyes became straight and have remained so for five years

[6] Extracted cataract from right eye needled left pupillary membrane

In conclusion, I would add that the more I study the anomalies of the ocular muscles, the more I see and the more I do, the stronger becomes my conviction that muscular advancement is the only operation —not the only *treatment*—but the only operation, not only for all forms of strabismus, but also for the strabic tendencies De Wecker of Paris, in a recent magnificent paper on the results of strabismus operations (Annals d'Oculistique, January, 1898), recommends advancement whenever binocular single vision is the end in view, *and tenotomy, or tenotomy and advancement* when the ultimate aim is a cosmetic result A stronger endorsement than this of advancement as the best procedure in *all* cases could hardly be conceived

ADDITIONAL NOTES ON EMPLOYMENT OF ABSORBABLE SUTURES IN THE OPERATION OF LOOPING THE TENDONS OF OCULAR MUSCLES

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY JOHN O McREYNOLDS, B Sc , M D
DALLAS, TEXAS

In my original paper on this subject before this Association in 1897, I briefly referred to a method of employing kangaroo tendon in the operation of shortening the ocular muscles, but additional experience has taught me the importance of certain modifications, which I will attempt to present for your consideration today And I shall feel more than amply rewarded for the labor of this pleasant task, if the members present will kindly contribute their suggestions from their wealth of vast and varied experience

In the first place, I should like to say that the kind of suture material and also the method employed should vary according to the amount of correction desired Speaking in general terms, I would consider that for the different forms of heterophoria of moderate degree, the catgut suture will supply the requirements and should be preferred because of the fact that it is practically absorbed within three or four days and will involve the minimum amount of reaction But when this material is used the heterophoria should be over-corrected in order to allow for relaxation of the sutures and the stretching of the newly formed adhesions In cases of extreme heterophoria and in heterotropia, kangaroo tendon offers the most reliable results, because of the fact that it does not become absorbed for two or three weeks and does not weaken rapidly from contact with the tissues, and hence will maintain the structures in the desired apposition until firmer adhesions have formed And when this kind of suture material is used, we should secure at the time an amount of over correction proportionate to the tension placed upon the sutures

With regard to the method of operating, I would say for small degrees of heterophoria employ this method with broad fixation forceps provided with teeth sufficiently long and sharp to engage all the structures down to the sclera, grasp the conjunctiva capsule of Tenon and ocular tendon in such a way as to produce a vertical loop of the ocular tendon Then fix this loop by a single suture passing through it horizontally If it is desired that the thread should sink beneath the conjunctiva, a slight incision through this membrane will allow this suture to bury itself in the tissues within its grasp while the conjunctiva closes above it

For high degrees of heterophoria and moderate degrees of heterotropia, I would advise the following Make an incision along the border of the tendon penetrating the capsule of Tenon Then with strabismus hooks lift the tendon gently from the subjacent sclera Then take a thread armed at each end with a sharp, delicate needle, and introduce one needle beneath the tendon close to its scleral attachment, while the other needle is introduced beneath the tendon as far from its scleral attachment as possible Then carry each needle straight through the tendon, avoiding the conjunctiva, which is simply held aside with fixation forceps Then tie the free ends of the thread thus fixing the loop of the tendon, then bring together the conjunctiva and leave the loop to form adhesions and atrophy

Where the degree of deviation is very considerable it is well to precede the advancement of the weaker muscle by a tenotomy of the stronger one, and then the advancement can be made in accordance with the methods already described, or we may employ another plan, which has the advantages of great leverage upon the eyeball and at the same time less puckering of the tissues The procedure is as follows Along the border of the rectus make an incision through all the structures down to the sclera, then with strabismus hooks lift up the tendon gently from the adjacent sclera Introduce the two armed extremities of the thread beneath the muscle at points as remote as possible from the insertion of the tendon, one needle entering the muscle near its lower border and the other needle entering the muscle near its upper border These needles are carried from within outward through all the tissues till the conjunctiva is reached and then the needles are carried beneath the conjunctiva, one passing along the superior corneo conjunctival junction and the other passing along the inferior corneo conjunctival junction When the threads have reached the opposite side of the cornea from the tendon to be advanced the threads are made to approach each other, while the necessary traction is exerted by the tying of the threads, thus producing a decided rotation of the eyeball toward the tendon to be shortened The conjunctival wound can now be closed and the sutures left for absorption

In all these operations for muscle shortening the great advantages over the various tenotomies, graduated and complete, are the accuracy with which the adjustment can be made, the freedom from danger of over-correction and the fact that the process is one for making shorter the weaker muscle and not making weaker the shorter muscle in other words, the advantages are accuracy, safety and strength

DISCUSSION ON PAPERS OF DRS BEARD AND McREYNOLDS

Dr H V Würdemann of Milwaukee—Since Dr Beard first demonstrated this operation to me, probably about six years ago, I have used it somewhat extensively, at least more than any other form of advancement operation for heterophoria and for cases of strabismus in which a decided amount of reposition of the recti muscles is needed I have used it most satisfactorily in cases of strabismus of more than 15 degrees For cases less than this, or for heterophoria I prefer one of the minor forms of advan [illegible] described and others I do not [illegible] the tend [illegible] described by Beard, [illegible] of o [illegible] the tendon over the other gives us a more secure hold, as in the healing process we get agglutination, and the little thickening is absorbed sooner or later, so it is of no particular consequence Immediately after the operation is finished we frequently find that the cornea is practically covered by a fold of conjunctiva, but that is an advantage, for it lies under the stitch and is a protection to the cornea After seven or eight days the reaction entirely passes away, sometimes sooner It is advisable to use braided silk for the sutures I object to the use of absorbable sutures in any form of advancement on account of the tendency for relaxation We frequently find by this method, as well as by others, an over effect of apparently 5, 10, or 15 degrees, but the next day, if the suture has slipped at all, we may have an under effect, so I think it more desirable to have a stitch that will hold I believe it is advisable to leave a loop in the stitch during the operation in order to pass the suture through, and find it more convenient than having to pick up the loop afterward, and I wish to lay stress upon the necessity for the needles being very sharp We must get a good hold on the sclera

Dr Melville Black—I would like to demonstrate on the blackboard a little operation of my own that resembles this one of Dr Beard's very closely A curved needle is threaded with No 5 iron dyed silk and the two ends tied into a hard knot The needle is passed through the conjunctiva into the sclera for a good bite just below the cornea Before pulling the thread through up to the knot, the needle is passed back between the two strands of thread close to the knot and then pulled home You will observe that I now have a point of scleral fixation close to the cornea, and at the free end of the thread is the needle A similar procedure is now gone through with above the cornea You see that I now have two sutures similarly tied into the sclera at corresponding points above and below the cornea With a strong pair of mouse toothed forceps the belly of the muscle to be advanced is now raised, and with a pair of scissors the conjunctiva and underlying tissue are incised along the border of the muscle above and below A tenotomy hook is passed underneath the muscle and the forceps withdrawn One of the needles is passed through the muscle, or tendon, according to whether it is desired to do a strict advancement or a shortening I forgot to say that the needle is passed from below upward The thread is pulled about halfway home The other needle is now passed in a similar manner If it is desirable to do an advancement, the tendon is severed from its attachment If it is deemed best to shorten as well as advance, the needles have been passed through the muscle at an appropriate distance from the tendinous insertion, and the muscle should be severed about two millimeters or more from the needles, or rather the threads The tenotomy hook is now removed and the attached end of the muscle is grasped with forceps and severed from its attachment to the globe The conjunctiva should be removed at the point where it is desirable to pull up the muscle for re attachment Now comes the advantage to be gained by having performed the operation as described An assistant is not needed, because the operator can grasp with one hand the two threads, and with his other hand the globe is rotated in the desired direction with a pair of forceps When the eye is drawn into the desired position the two threads are tied over the muscle, and the operation is completed You will observe that there can be no torsion of the globe caused by one suture being shorter than the other, because there is enough play of the sutures in the muscle to overcome any such inequality The sutures are allowed to remain in position for five days, when, as you will observe, they are very easily removed This operation has proved universally satisfactory, both for advancement in heterophoria and for shortening and advancement in extreme cases of true squint I always perform the operation under cocain anesthesia, except in very young children, and find that it takes but little longer than simple tenotomy A wet bichlorid dressing is applied and the eye bandaged for twenty-four hours The patient experiences but little pain, and there is scarcely any reaction on the following day

Dr G C Savage—"Man wants but little here below, nor wants that little long," but we all want credit for any operation we may have devised Dr McReynolds will acknowledge that the operation he described was devised by me I have seen Dr Beard perform his operation and I want to say that I believe the operation is rather too severe for the effect to be accomplished I agree with him on this point, that in straightening the eyes it is better to do a partial tenotomy of the offending muscle and an advancement of the other, than to cut the muscle completely loose from the eyeball A partial tenotomy ought always to be done in squint, and the rest accomplished by advancement, and having done the partial tenotomy I think the Stevens advancement is the best operation to conclude with The reaction is slight and there is no torsion Of the two operations described here today I want to say that I believe Dr Black's is the simpler, secures the same effect and does not require a general anesthetic In any operation the less traumatism we produce in accomplishing our purpose, the less danger there is of infection Muscle shortening is applicable only in the heterophoria In heterotropia its effect is too little

Dr Beard—I used to tie the sutures in a bow knot at first, and it may be a good idea still, but I found it difficult to get the patients to come back and have the knot adjusted I came to the conclusion that it was not practicable and lately have not used it This is only one method of treating strabismus, and I have only used it in cases that would not yield to any other treatment As regards the degree of turning that one can get, that depends merely on where you place the suture, for you can get up to thirty or forty degrees with ease

Dr Kinney—Do you have any difficulty with torsion and do you both shorten and advance?

Dr Beard—One idea of this operation is to prevent torsion If the thread is properly inserted and there is no snarl, the muscle comes forward directly in line with its axis, and the tension on the thread is equal at every point In reply to Dr Savage, I would say that I never use a general anesthetic for operation, except in cases of little children or excessively timid adults

Dr McReynolds—One of the most important features, to my mind, was the employment of an absorbable suture instead of silk, because of the difficulty I found in getting the silk out of the loop This was almost as much of an operation as the original one I consider the kangaroo tendon the best because it is absorbed the more slowly In my experience I can secure as much correction as I desire, if I can get a hold as far back as I please, and if I want the maximum of correction I pass the suture clear around the cornea to the opposite side

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A STORY OF CHICKAMAUGA

[PART II]

BY R STANSBURY SUTTON, M D
Major and Chief Surgeon U S V, Commanding Second Division First Army Corps Hospital at Chickamauga

There was a great deal of sickness at Chickamauga Park You would not expect to put 60,000 men in a camp seven miles square and keep them there all summer without sickness Furthermore, a large number, the great majority, were from northern climates and not only had they that to contend with, but their entire mode of living had been changed, and they were necessarily subjected to daily drill of about five hours, required to educate them to be soldiers In addition to this they had their camp duties to perform and their own necessities to look after, and it was but natural that some of them should become ill. Volunteer soldiers, without experience in camp life, great numbers of whom at home were unaccustomed to hard work and plain food, would naturally suffer some inconvenience. In every army there is an element which, if not restrained, will abuse themselves by drunkenness, vice and immorality, and this army has been no exception to other armies. There was considerable suffering by reason of these things. In this respect, however, at Knoxville, there has been a marked improvement. This element is being held down by a strong provost guard. Before our army entered Chickamauga Park—and 75,000 troops have been there—typhoid fever was prevailing, as stated, among the farmers living on the edge of this park; they supplied the camp, to the extent of their saleable articles, with milk and general farm products, and it is entirely probable that they introduced the infection. In time the camp became reinfected through the sinks and careless use of the grounds by soldiers. When the rains set in about July 17, the surface infection was washed into the creeks and streams, the soldiers resorted to the swollen streams for bathing and washing purposes, and this was doubtless another cause of the spreading of the disease. The flies were in the camps by myriads, and they carried on their wings, legs and bodies the typhoid germs from the sinks and elsewhere, over the camp, infecting the food and drink to a greater or less extent. Another source of infection was doubtless cases of typhoid imported by regiments coming from other places, but the disease did not assume alarming proportions until about August 10, after the rains had ceased. The water supply has been, by the public press, credited with a great deal of the disease in Chickamauga Park. This supply was from four sources. The springs outside of the park, from which the water was hauled by mule teams, were, I believe, sources of pure water, and from one of these I supplied the hospital, in which our mortality was 14 out of 984 patients. The second supply was by pipe line from Crawfish spring. In regard to the purity of this water there has been a dispute. The influent pipe was, until August 6, at least a mile below the spring, but after that date was carried up the river to a point near the spring, but after digesting all the causes of typhoid in the camp, I am disposed to give credence to those who have pronounced this water to have been pure. The third source was from drilled wells. Into them was dropped a tube with a pump attached, and the surface water reached and polluted that water, and it was impure. For a time some troops got water from these wells, but they were shut off by order of S. H. Hysell, Division Surgeon-Major. The form of typhoid fever prevailing was not always of a severe type. Hundreds of these cases were called cases of malarial poisoning. They went about in camp, unfitted for duty, growing thin and pale and eventually went to bed, or beginning to convalesce, got well, uncertain as to whether they had malarial fever or typhoid. Outside of typhoid fever and the results of indiscretion the troops were comparatively healthy, and cases of ordinary sickness did not exceed a reasonable expectancy in camp life. The medical staff of the army at Chickamauga were men of more than average ability, and I have never before seen a more enthusiastic devotion to duty than was evinced by them. As commanding officer of the second division hospital, I had seven commissioned officers. Six of these were medical directors. Major H. B. Bagley of Wheeling, W. Va. had charge of the surgical department, with Captain Dutton of Minneapolis as his colleague. Major P. J. Myers of Fostoria, O., had charge of one half of the medical wards, with Lieutenant Little, of Macon, Ga., for his colleague. Major Charlton of Indianapolis, with Lieutenant Nesbitt of Fairmont, W. Va. had charge of the other half. The devotion of these men to their respective duties is best told in the statement that of 984 patients on the hospital register, but fourteen died. The hospital averaged about two hundred and twenty-five patients and occupied within its site for all tentage about three acres of ground. The hospital corps after August 20, consisted of about one hundred and five men. Prior to this date it was as low as thirty-nine members. From this corps, nurses, cooks, clerks, guards, men for general utility work, keeping grounds clean, hauling water with mule teams, etc. were furnished. Lieutenant Cary, seventh officer, from Duluth, Minn., had charge of the commissary department, and proved to be an able officer. The rations furnished by the government were of good quality and abundant. In addition a liberal supply of fresh meats was furnished daily. We had three kitchens running constantly, with men cooks, as there was not a woman helper on the plant. The Red Cross Society, the National Relief Society, the Army and Navy League of Cincinnati and also the auxiliary Red Cross of Pittsburg funished me with large quantities of supplies, well adapted to the use of the sick. The latter were well supplied with pajamas, night shirts, slippers, towels, soap, jellies and jams. There are many things in the way of new drugs which the government does not furnish, and the division hospitals and general hospitals receive almost the entire attention of the societies mentioned. The regimental hospitals were left almost entirely without any of these things for their sick, whom they were expected to send into the division hospital promptly, but the latter was often so full that they could not receive them as rapidly as was expected, and consequently for this and other reasons there were at all times sick in the regimental hospitals. The Pittsburg Red Cross sent me $500 in cash, which I distributed largely among the chaplains of the various regiments, for the purchase of milk, butter, poultry and unfurnished drugs for the use of the sick detained in the regimental hospitals. When we take into consideration the fact that the government, in a remarkably short time, aggregated an enormous army of inexperienced and undisciplined soldiers and undertook its maintenance and its detailed care, any unprejudiced observer, with any prior army experience, must arrive at the conclusion that the government has done well. There were times when the supplies of lumber for tent floors and cots were difficult to procure quickly, and unless an emergency had existed requiring their immediate use the delay would not have been serious. Moreover, it is possible that some delay may have occurred in the delivery of these things from other causes than a scarcity of the articles. When you compare the condition of the soldiers in Chickamauga Park in 1898 and in 1863 and 1864, you are forced to the conclusion that the soldiers of 1898 had the best of it. Before I went into the service I wrote to Senator Quay saying that the troops o[illegible]t to be [illegible]ated and prepared for service in no[illegible] I ha[illegible] no reason to change that [illegible] tated that our Northern troops would naturally suffer more in a southern climate in camp life than Southern troops would, but the First Georgia volunteer infantry was a part of the second division and I received their sick at the division hospital They contributed a larger portion to the sick than any other regiment in the division The fact that they were acclimated was not sufficient to enable them to stand up to camp duties in their own State any better, nor as well, as their more sturdy brethren from the Northern States and I believe now that Southern troops should be drilled in Northern camps, in a summer season pending a campaign These observations apply only to the portion of the army at Chickamauga, and are not presented as the views of other officers, who may have looked at matters from another standpoint There has been an enormous amount of exaggeration in regard to the condition of affairs Of course there have been instances of seemingly unnecessary suffering, but I know of no instance which was followed by death or other serious consequences, and in an army without battle-wounds it is difficult to conceive how the hard conditions of war could prevail to any extent There were times when sick men were lying on the ground, which was dry and carefully cleaned, and they were under cover This was only temporary whereas in the Civil War it was a constant occurrence This time the rations were abundant, the delicacies more than enough, tents were always at hand On the night of September 8, a sudden cold wave swept over the camp at Knoxville The patients in the division hospital did not all have blankets enough, and the army supplies were not at hand, as the emergency was not expected At 9 P M two or three hours after the wave had struck the army, I had a wholesale merchant hunted up in Knoxville and with the money furnished by the Pittsburg Red Cross, I [illegible]rchased 100 double blankets and sent them up to [illegible]ajor Bagley, *then in charge, and some patients* were made more comfortable While it would have been well to have had an extra supply I can scarcely conceive of any negligence on the part of the government to meet an almost unprecedented cold snap at this season of the year in that climate

Where large bodies of troops are to be kept in one camp for a period beyond fifteen days, the government should provide crematories for the burning of all kitchen garbage and hospital refuse gathered daily The sinks for reception of stools should be deep, and so inclosed that the pit is perfectly dark A building of boards should be erected over the sink, proper seats with lids should be within it, and the entire building should be coated with several layers of a solution of lime, carbolic acid and formalin, and several gallons of the latter in 1 per cent, solution should be thrown into the sink daily A solution of formalin is superior for the disinfection of typhoid stools, and such stools should be disinfected in a sink designated to receive infected stools only

The lessons of the war are many and are not yet all revealed The country at large will profit by it, while individuals in many instances will reap sorrow and disappointment I would again suggest, as I have already done, that inoculation for typhoid fever be tried on all troops going to Cuba excepting in cases where the soldier has had the disease within a few years Three soldiers companions, left Chickamauga for Porto Rico One, convalescent from typhoid, bemoans his hard luck two perfectly well were jubilant On the voyage out the invalid recovered, grew strong and returned well The other two developed typhoid fever and died in Porto Rico Here is, in this illustration, the sequel of the whole question of immunity, its importance, and its possibility Surely a serum can be prepared for the attempt

COLPOPERINEORRHAPHY AND THE STRUCTURES INVOLVED

DEDICATED TO DR THOMAS ADDIS EMMET AND MR LAWSON TAIT
IN RECOGNITION OF THEIR LABORS IN THE SURGERY
OF THE PERINEUM

BY BYRON ROBINSON, B S, M D
CHICAGO ILL

Continued from page 788

GENERAL CONCLUSIONS

1 To cure sacropubic hernia (uterine prolapse), perform amputation of the (sharp) cervix, anterior colporrhaphy, Tait's flap perineorrhaphy

2 The amputation of the cervix is for the purpose of removing the sharp cervical point directing the cervix backward, restoring the uterus to normal position

3 The anterior colporrhaphy is for the purpose of narrowing the vagina, elevating the bladder, directing the cervix backward and the fundus forward

4 The Tait flap perineorrhaphy is for the purpose of restoring the perineum restoring the obliquity of the genital canal restoring such a central floor as will efficiently support the rectum, bladder, and genitals

5 If the cervix be *not pointed* and *retroversion* does not exist amputation of the cervix may be omitted in the above procedure

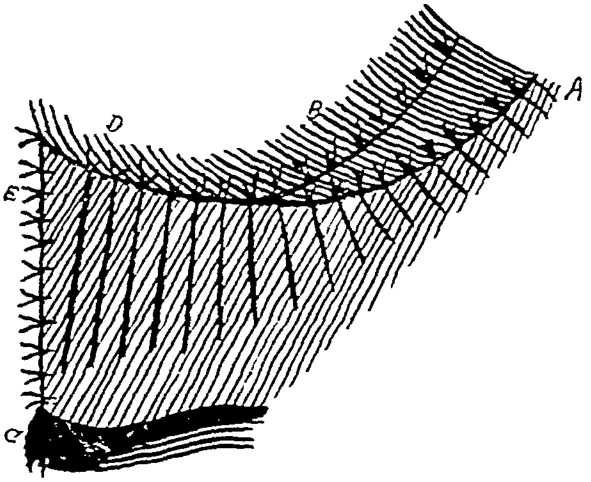


Fig 30—Profile view of A Martin's colpoperineorrhaphy posterior A B elytrorrhaphy D E C perineauxesis

6 If the uterus and bladder be in normal position and the vagina not prolapsed anterior colporrhaphy may be omitted

7 The permanent success of Tait's perineal flap *operation consists in extensive flaps* (*by means of* front and back cuts) and the drawing into the median line of large masses of lateral tissue for a pelvic floor These lateral masses are drawn in and secured for weeks by deep sutures of silkworm gut These deep sutures *six to eight in number, act like splints for* four to eight weeks, and though part of the wound suppurates, the sutures maintain it in coaptation while it granulates and heals

8. Our operations have proved definitely that the rectal sphincters may be practically restored to normal, even after long periods of rupture. One case of thirty-four years' standing, with two previous unsuccessful denuding perineorrhaphies and a complete laceration of three inches up the rectum was restored to perfect function.

9. The three surgical procedures described will obviate hysterectomy in many cases.

10. The flattening out of the operation, or the yielding of the union, or the stretching of the parts allowing prolapse, will depend especially on the flaps and the amount of tissue permanently drawn into the middle line.

12. We especially insist that better results are obtained by allowing the silkworm gut sutures to remain in position for from four to six weeks. Should any suppurate they may be removed at any time. Wounds do not heal very firmly under three weeks.

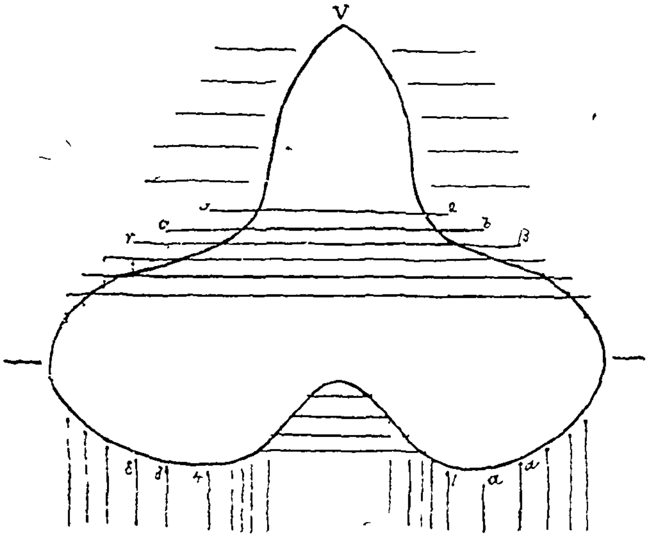


Fig. 31.—Hildebrandt's method of denudation and suturing. The dotted lines show the sutures under the tissues. The denuded area is that of a trefoil. Hepner's method of suture is that of a figure 8. Cleveland's method is simply a peculiar method of suturing.

13. We feel decided in stating from our own experience that the flap operation should not be disturbed by dressings. The patient should be kept quiet for three days, and then a vaginal douche may be given daily. After the first half day the wound is hermetically sealed by its own oozing. The limbs should be tied together at the knees. The bladder will generally require the use of the catheter for two to four days. Morphin injections of 1/16 of a grain may be given to quiet the pain and induce rest.

14. The dissection of the rectum from the vagina for one to three inches, was added from my own experience, as I never saw Mr. Tait do this. This additional procedure lengthens the operation to fifteen to thirty minutes, Mr. Tait performs his operation in five to ten minutes.

15. The result of the foregoing surgical procedure has been gratifyingly successful.

16. The flap operation fits any and every case, for it resplits the old cicatrix and restores and adds what is required.

17. In no single case, in over 150 which I have observed, was the flap operation not applicable.

18. The flap method makes little scar tissue, as the operative procedure is performed in connective tissue while cicatrices form in skin and mucosa. In the flap colpoperineorrhaphy the posterior vaginal wall is made to sustain the anterior.

19. In the flap operation the vaginal walls are made to give their full support to the uterus—the posterior wall sustains the anterior vaginal wall and bladder—and also to support and direct backward the rectal wall.

The flap perineorrhaphy has been chiefly revised and introduced to the profession by Mr. Lawson Tait of Birmingham, England. It is true the flap perineal operation was performed in various ways by others, as Duncan, Colles, Jenks, Marcy and Langenbeck. But Mr. Tait gave it a new impetus, and also performed it with new phases. He performed it with elbow scissors and introduced sutures which neither penetrated skin nor mucous membrane. As a pupil of Mr. Tait, for six months, I had ample opportunity to observe his methods of operation. The principle of operation consists in resplitting the old perineal cicatrix without loss of tissue, with fixed coaptation of the flaps. After observing Mr. Tait's methods I naturally practised the operation as performed by him and his assistants. About a year later I began to modify the operation by dissecting the rectum and vagina from each other for a variable but long distance (1 to 2½ inches) above the vulva or anus. This modification enabled me to apply it to almost all forms of prolapse, relaxed vaginal wall or perineal laceration, in short, in all conditions requiring perineorrhaphy and colporrhaphy posterior. The objections raised against the flap method we found, after over six years' trial, were not well founded. One objection is that Tait's flap perineorrhaphy is a "skin operation." If performed superficially it may be subject to the above criticism. However, such criticism can only be applied to imperfect execution. The operator must carefully guard against closing the vulva too far. One can easily make an excessive perineum by the flap method. This objection is, as a matter of fact worthless. Another objection is that the flap method in no way narrows the vagina. This objection will not hold, as the vagina can be narrowed so as to embrace tightly a single index finger. In fact, we can dissect the rectum and vagina from each other for three inches up to the peritoneum, or as high as desired and narrow the lower third of the vagina as much as the operator sees fit. The upper two thirds of the vagina does not require narrowing. Another

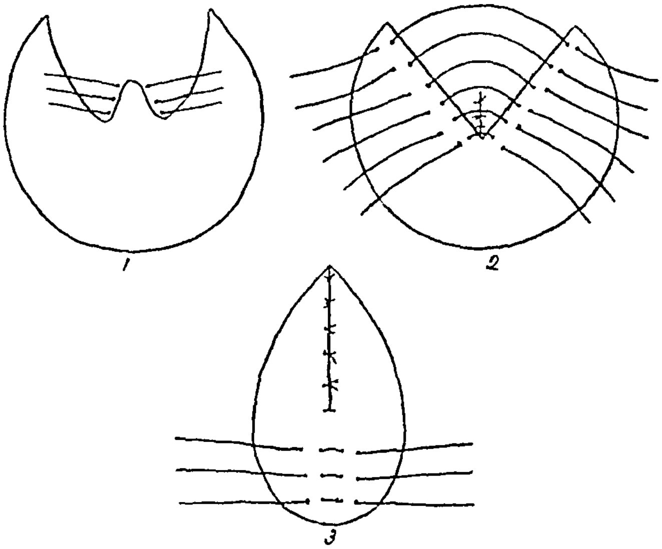


Fig. 32.—(After Pozzi.) Lautenbach's method in incomplete rupture of the perineum. 1, suture of the superior angle. 2, submucous suture of the vaginal wall. 3, buried sutures deep in the wound.

objection is that it does not approximate the fibers of the levator ani It is the operation par excellence to unite the deranged or torn levator ani fibers, because the dissection is carried beyond the levator ani fascia superior and inferior through the levator ani muscle In fact, it enables the operator to secure both the levator ani fascia superior and inferior, which embraces the levator ani muscle One must secure the levator ani fascia in order to secure the levator ani muscle, which is guarded and embraced by a definite fascial sheath The flap operation reunites the posterior vaginal fascial septum without denudation, as Emmet's operation unites it with denudation Both Emmet's and Tait's operations are based anatomically on the same principle—one denudes however, and the other does not, but employs a flap to cover the wound My practice is to dissect the rectum and vagina in the lateral sulci In the American Textbook of Gynecology the writer on "Flap splitting Perineorrhaphy' makes the following absurd statements "Its field of usefulness is very limited indeed Practically it is applicable to those cases in which only the superficial and most exterior fibers of the perineum are torn" The above views can certainly be based only on imperfect knowledge, execution, or observation of the operation We can affirm that it is one of the most certain and effective of all operations on the perineum The flap method of colpoperineorrhaphy is the one above all others that enables an operator to reunite the levator ani fascia superior and inferior with the enclosed levator ani muscle without blind searching, to abolish a rectocele, and to repair prolapse of the uterus The same writer cited above makes a further statement as ridiculous as the first, that, "In no way possible can this operation (flap-splitting) narrow the vagina, abolish a rectocele, or bring together the separated fibers of the pelvic

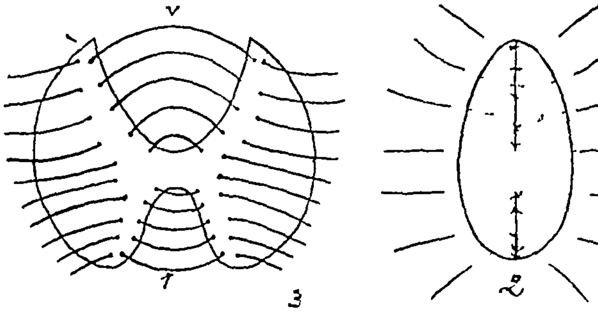
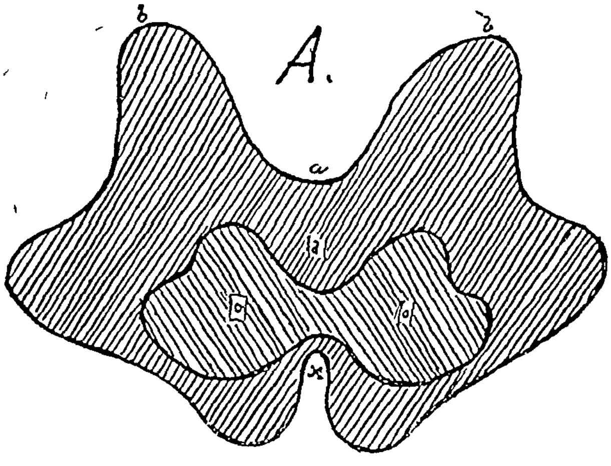


Fig. 33—Lauenstein's suture in complete laceration 1 introduction of sutures which coapt the vagina and rectal mucosa 2 introduction of the perineal sutures after the vaginal and rectal have been fastened



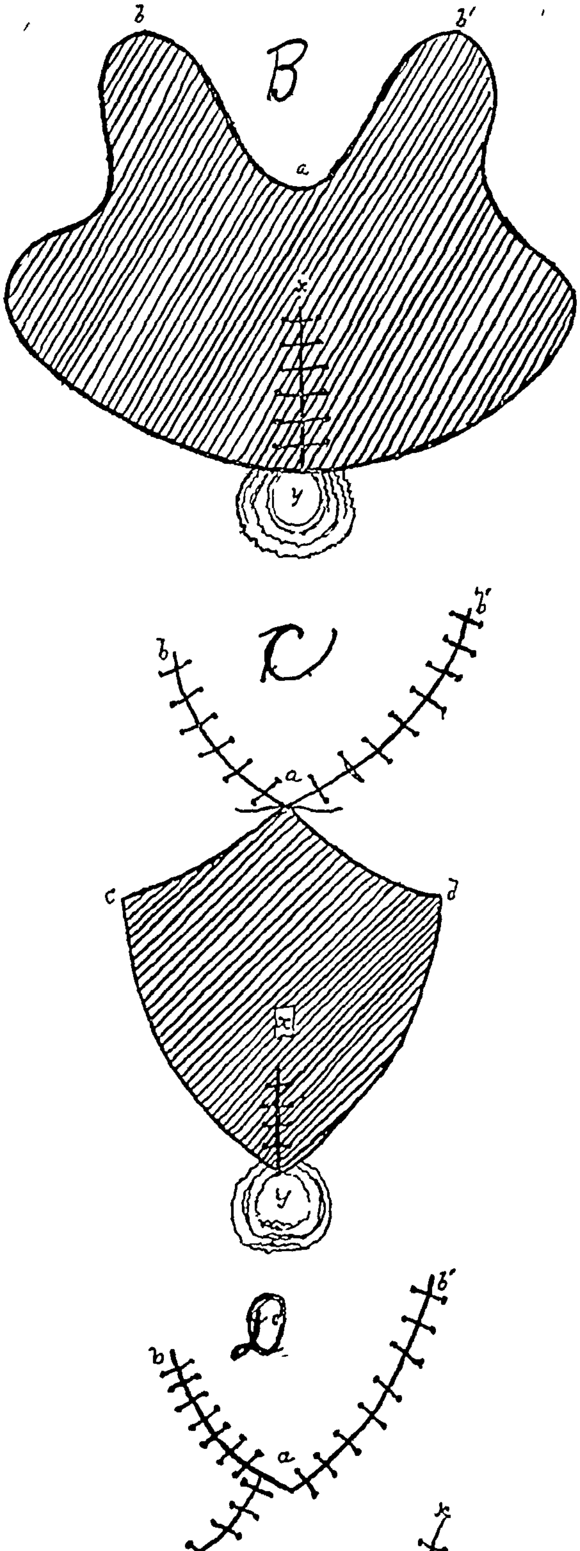


Fig 34 A B C D—(After Pozzi) Freund's method Freund insists that we should make the denudation exactly as the perineum appeared when originally torn For example the cicatrix O O originally appeared as large as B, B, X, in A and should be denuded to that size the line X, Y, in B represents the rectal suturing the line of sutures, B A B in C shows the vaginal part sewed up X, Y corresponds to the rectum suturing A C, Y, D in C the denuded perineal area which is still unsutured,

D the final disposition of the sutures in Freund's method It is an excellent one, but complicated and is wrought with much sacrifice of tissue if the operation fails

fascia " It is fortunate that this "American ' text-book does not represent the views of all Americans The flap splitting perineorrhaphy, in the hands of those who have thoroughly practised it has proved absolutely that it will narrow the vagina, abolish a rectocele, and bring together the separated fibers of the levator ani fascia superior and inferior with the fibers of the levator ani muscles Also it securely unites the ligamenta ischeo perinei The flap method is alike useful in partial and complete operations, and in high rectovaginal dissections does all that Emmet's does, with no denudations, and with a better chance of healing, by avoiding the infectious atrium Also, like Emmet's operation, Tait's flap-splitting is founded on anatomic structures and designed to restore physiologic functions Both operations have come to stay The conception of the flap-splitting operation rests on the pathologic conditions of the wound If one examines a vulva with lacerations, he will see linear cicatrices, narrow white lines which are transverse in dissection These white lines are the healed cicatrices of the old perineal lacerations The linear cicatrix is healed at right angles to the original wound or rent Wounds generally heal in the direction of the tear

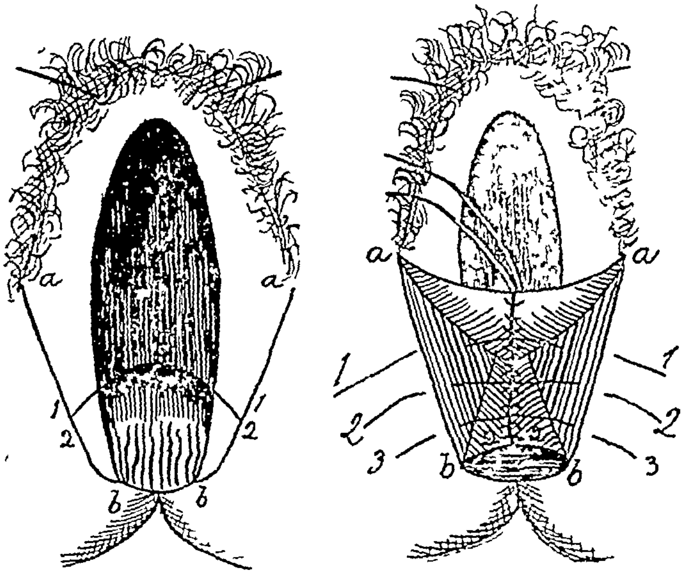


Fig 35 —(After Pozzi) A R Simpson's method It is really a flap operation In the left hand cut *a b* and *c* represent the lines of incision to make the flaps S vagina 1 1 vaginal flap 2 2 rectal flap The scissors are first entered at *b* and the point emerges at *a* and then a clip is made second the scissors are entered at 1 and pushed between the vaginal and rectal walls over to 1 and a clip makes the rectal and vaginal flap Dissect the vaginal flap from the rectal as high as the case requires To do this, seize the vaginal flap with several small forceps which the assistant can gently hold also seize the rectal flaps with several small forceps and allow them to hang as their weight is sufficient to put the flap on tension with the two fingers in the rectum and a pair of blunt pointed scissors the dissection of the flaps is conveniently made The sutures are introduced as shown in the cut Observe that in this operation four flaps are made and that the rectal and vaginal walls are sutured separately also note that the sutures 1 2 3 are entered by passing through the skin The suturing and flap making is absolutely different from that of Mr Tait's flap method in which only one flap is made and no sutures enter the skin or mucosa and all sutures are in denuded tissue

On this peculiar condition of the cicatrix being at right angles to the wound is based the flap splitting method of Mr Tait The transverse cicatrix is split and sutured at right angles to itself It simulates the Heinike Mikulicz pyloroplasty when the wound is sutured exactly in the opposite direction to its incision It is the same procedure as one may employ in varicocele to shorten the scrotum i e incise the scrotum along the spermatic cord for three inches and then suture the scrotal wound at right angles to the incision as is practised in Dr Senn's clinic In suturing the split cicatricial wound at right angles to itself we restore exactly the original normal structures of the perineum By this method the perineum and relations are restored to the normal condition which alone will withstand subsequent labors The patient should be prepared for three days before the operation by cathartics, so that the digestive tract may be thoroughly evacuated The cathartics should be so administered that all defecation should cease 8 to 10 hours before the operation There will then be no feces in the rectum during the [illegible] nor [illegible] hours subsequent The pat[illegible] the [illegible]

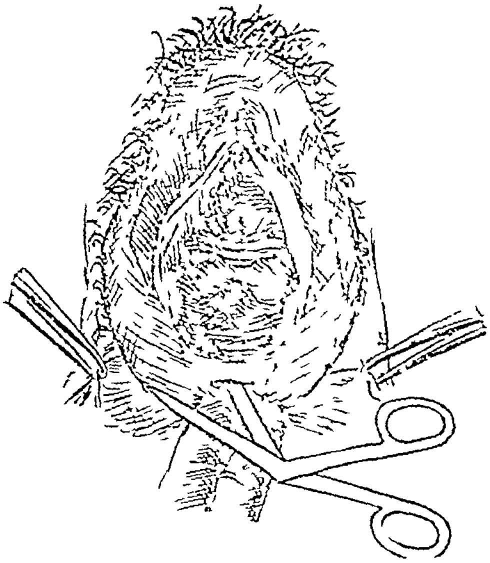


Fig 36 —A perineal laceration to the rectum Two fingers of the left hand are in the rectum the recto vaginal septum is put on lateral tension by the traction forceps on each side the blade of the scissors is inserted between the rectal and vaginal walls and the dotted line marks out the flap to be produced

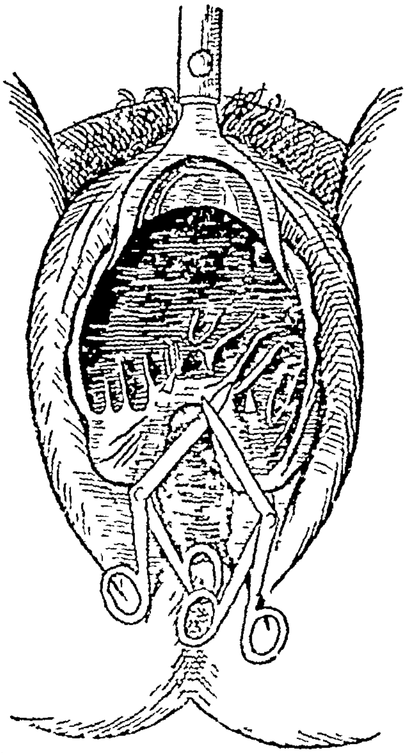


Fig 37 —(Modified from Pozzi) A very extensive rectovaginal laceration of old standing with large radiating cicatrix [illegible] healing line The scissor blade [illegible] introduced [illegible] the rectal and vaginal walls at the cicatricial margin [illegible] are produced Back cuts extend to the [illegible] are made to produce a large [illegible] into the vagina [illegible]

lies on the back The instruments useful in this operation are elbow scissors, a handled needle with an eye in its pointed end, and strong silkworm gut The silk worm gut should be thoroughly washed with soap and water The index and middle finger are introduced into the rectum, and the recto-vaginal septum is divided in the linear cicatrix The scissors point is then forced under the skin of the labia and carried upward as far as desired and clipped The opposite side is treated exactly the same Back cuts are now made on each side of the rectum as long as desired In slight operations the back cuts are not required The anterior vaginal flap is seized with forceps and drawn forward, while the posterior rectal flap is seized and drawn backward We dissect the rectum from the vagina as high as desired (1¼ to 3 inches) At the same time the lateral space on each side of the vagina is dissected as extensively as is required to make the perineal body (See Fig 19) The two fingers of the left hand are kept continually in the rectum as a guide The extent of the dissection is governed by the condition of the parts, the size of the wound, and the object in view, whether it be narrowing the vagina, extension of the perineum, or almost closing the passage for prolapse With considerable dissection, a few arteries may need clamping, however, the hot irrigation will nearly always be sufficient to check the hemorrhage If the bulb be cut it will bleed profusely, but sponge-pressure will soon check it If the scissors cut open a vulvo vaginal abscess the whole gland should be dissected out and disinfected, in order to avoid an abscess in the wound

(To be continued)

SOCIETY PROCEEDINGS

Chicago Gynecological Society

Regular meeting held Sept 18, 1898

The President, Dr HENRY P NEWMAN, in the Chair

Dr JOSEPH PRICE of PHILADELPHIA (by invitation) read a paper entitled

ABDOMINAL VS VAGINAL SECTION IN PELVIC SURGERY

He said it was very difficult to consider some of the opinions of recent adoption by surgeons with a judicial temper and impartiality These different opinions had a surgical importance, in that problems arose, and their discussion would not and *should not down until they were satisfactorily settled If his* own views were distinct and had something of a dogmatic ring, it was because thev were forced upon him by actual experience and observation Many practising the vaginal operation had the impression that the operation had not been universally adopted because physicians did not understand it, that it was difficult, dangerous, or impossible in their hands, that it required for its successful performance a peculiar aptitude, a special training and adeptness This was a mistake A number of men who opposed the vaginal operation had done it successfully, their mortality had been quite as low as that of those who advocated and made the procedure their adopted one *They did the suprapubic operation, influenced by the* logic of their experience, by purely surgical and pathologic reasons, and it was the operation of their choice because it gave the most complete results, left less dangerous or annoying sequelæ, and less risk of the necessity for repeated operations By the suprapubic route surgical cleanliness and surgical completeness were possible, by the vaginal they were not The difference between the advocates of the abdominal method and those who critizised it was that the advocate spoke according to his knowledge and of the facts which actual clinical experience had *confirmed, the critic* according to his failures, disappointments and prejudices The one had uniform success sustaining him the other humiliating failures which inspired and gave color to his opinions The French and Belgians were never successful in doing the suprapubic operation The successful American, English and German operators had practised both methods for years, adopting the suprapubic procedure for tubal and ovarian disease, and the vaginal route for malignancy The results of these men were uniformly good, they adapted their operation to actual pathologic conditions, they operated for actual disease, and not for all sorts of fancied conditions, or for vague nervous disorders due frequently to emotional susceptibility

He said it was simply amazing how common it was with some operators to begin two distinct operations and complete neither Good operators sometimes made a free opening into the abdomen, inspected and backed out, and then attempted the vaginal route and abandoned it after the puncture of one or more accumulations and drainage The relief following mere puncture and drainage was only temporary The drainage of one or more pus pockets, where many existed in a large, tortuous, puriform tube or tubes, and where we had one or more ovarian abscesses, never cured The only cure was the removal of the diseased member He thought surgeons need only appeal to actual clinical facts in the experience of some prominent vaginal *operators to show how difficult and incomplete their work* was when they encountered deep seated and complicated pathologic conditions, and also in how very many cases the result was fatal In relation to results from any procedure, no reliance could be placed on the statistics of men who selected only favorable cases for operation and rejected the unfavorable These men in his opinion had no right to compare their results with those of men who did not reject the desperate cases Imperfect and incomplete work by the abdominal route was a feeble argument in favor of the vaginal The fault was not in the procedure, but in the operator, his lack of wide clinical experience in dealing with gynecologic troubles or lack of surgical courage to complete the work he began The removal of pathologic conditions was easier from above than from below, because the structures were more easily defined and lines of cleavage or enucleation were *from* important structures and not *toward* them or *into* them, there was no difficulty in *securing arteries, as they could be seen and felt pulsating beneath* the fingers The operation was precise, it could be made mathematically certain in its limits, the incision was directly under the eye and under the absolute control of the fingers, it was not a stab about in the dark among vital organs as in the vaginal route, it enabled the easy freeing of omentum and bowel when adherent, and the repair of all disorganized parts These were important considerations

Careful examination of statistics coming from reliable sources went to show that abdominal pain continued in very many cases operated upon by the vaginal route and followed too many imperfectly, incompletely and ignorantly operated upon by the suprapubic method These disagreeable symptoms complained of by patients after operation were nearly always the result of leaving omental and intestinal adhesions The profession was too prone to talk about the septic uterus A patient with a septic uterus was very ill and usually died speedily *There were few things that killed a woman quicker* than a septic uterus The essayist was daily doing sections, and while dealing with all sorts of complications and adhesions, dangerous twists and contortions, strong adhesions or fixation of crossed viscera, the sigmoid strongly adherent to the anterior face of the right tube and broad ligament, the cecum and appendix out of position and adherent, he could not but experience a sense of surprise that experienced surgeons (who have in the past done good abdominal work) could forget or ignore the lessons of their experience and deliberately extirpate the little healthy uterus and pass by pathologic lesions and complications constituting the real and only source of trouble Surgery would be more judicious and successful if more care and skill were exercised in determining definitely the trouble for which operations were performed and the procedure strictly adapted to actual conditions No one method should be pursued in all cases, the symptoms and conditions present must *largely guide the surgeon in the selection of a procedure* It was important to select with great care the cases favorable to the application of any particular method Sinuses were just as frequent and distressing in the vaginal vault as in the adbominal incision Menopause nervous phenomena were about the same in both procedures, when completed

In a series of 403 cases of vaginal hysterectomy, including *about all conditions for which it was done, total general prolapse* etc, Jacobs had 9 fistulæ after the operations, yet he said that "subsequent fistulæ were exceedingly rare" He had observed 5 intestinal, 3 visceral and 1 ureteral fistulæ Further, he remarks that "in most of the cases these fistulæ existed prior to the operation, there were fistulous passages which extended between the purulent foci and some part of the intestine These passages were so large, and with walls so well organized that the disappearance of the purulent pockets did not suffice to bring about the subsequent and spontaneous cure " In all such cases the speaker relieves adhesions, trims and repairs all lesions, with the most pleasing results, without any of the sequelæ of fistulous openings given by Jacobs as following the vaginal procedure

D **Fernand Henrotin** opened the discussion with a paper entitled

THE INDICATIONS FOR INTERFERENCE BY WAY OF THE VAGINA IN PELVIC DISEASES AN ANSWER TO DR JOSEPH PRICE

At the outset, he held that the vaginal route was a proper channel to attack pelvic disease in women in certain selected cases only As better inspection and palpation of the pelvic organs could be obtained by an abdominal incision, it was conceded that all patients to be operated vaginally must present special indications, and that in cases of doubt the abdominal incision was most proper In favor of vaginal section it may be said that where the same results can be obtained vaginally, this route should be accepted as it avoids the abdominal scar, lessens the shock and is much less frequently followed by hernia Although one of the first to advocate the treatment of pelvic affections by way of the vagina in selected cases, he was most willing to admit that this method was not so much in vogue with experienced operators as it was three years ago, and for very good reasons, one of which was that our knowledge of the prevalence of appendicitis in conjunction with pelvic trouble made it incumbent to operate by an abdominal incision when any degree of this affection was even suspected, and we had learned in later years that this condition was common The primary incision, whether it be through the abdomen above the pelvis, or through the vaginal vault, was to a degree always an exploration The infinite variety of intra abdominal complications made it so This primary incision was as frequently curative by way of the vagina, and even more frequently so, than the abdominal cut This was by reason of the ease and directness of drainage The early vaginal incision, to those who understood it and had the skill to perform it properly, was the ideal of conservative surgery This incision, like all vaginal operations, was only applicable to selected cases By early vaginal incision was meant an incision that cures the localized septic pelvic infection in its very beginning, the woman remaining thereafter not only symptomatically, but physiologically perfect It was particularly applicable to the treatment of acute ovarian abscess This disease he believes is more common by far than is generally supposed Its most general cause was abortion and trauma It was the most common extra uterine form of pelvic sepsis that occurred following early miscarriages, criminal abortion and unclean surgical manipulations After two or three days of fever the presence of exudate could usually be recognized at the sides or behind the uterus This meant ovarian abscesses in eight or nine cases out of ten

Vaginal hysterectomy was sometimes advisable, and in some cases was infinitely superior to any abdominal operation that could be performed on the same patient Experienced operators who were equally skilled in vaginal, as well as in abdominal work, were doing less vaginal work now than they were two years ago At least, this was his belief not because vaginal hysterectomy was not a very proper and sometimes the best operation to be performed in certain cases, but because it was a radical operation and because the field of all radical operations had been much restricted for the last few years Salpingectomy, ovarian resection, vaginal incision, had all done their share in the salvation of scores of uteri While abdominal operators were improving their methods and perfecting their results, the vaginal workers were developing the possibilities of the vaginal incision, and he claims today that one if not the greatest of modern conservative gynecologic triumphs, is the thoroughly understood and properly performed vaginal section in selected cases And there are many As regards vaginal hysterectomy, it still had in the opinion of the speaker, a perfectly defined position In women necessarily sterile and approaching the menopause, where bilateral periuterine septic disease existed and was situated low in the pelvis and with a roomy vagina particularly in those with extensive and disseminated suppuration who were low with septic fever and especially where the abdominal wall was very fat vaginal hysterectomy was still by far the preferable operation, and when skillfully performed in a large series would always give the best results To demonstrate his own opinion as regards selection Dr Henrotin presented a table showing the frequency of vaginal as compared with abdominal incision and the character of the intervention, from which it will be seen what an important factor the conservative operation has become, and frequently he believes vaginal section applicable These operations were performed from January, 1897, to July, 1898 Reference is made only to such as were done for clearly defined pelvic disease, and the list does not include abdominal operations on the kidney, liver, gall bladder, appendix, intestine (hernia) or any miscellaneous intra abdominal work in which the internal genitalia were not involved Of 180 such operations there were

SUPRAPUBIC CELIOTOMIES 132

Conservative operations on the adnexæ always leaving ovarian tissue and uterus	62
Double salpingo-oöphorectomy	4
Single salpingo-oöphorectomy for ruptured ectopic gestation	8
Myomectomy	3
Hysterectomy for fibroids	14
Hysterectomy for sepsis	8
Hysterectomy for prolapse	3
Miscellaneous operations for adhesions ovarian dermoid and intraligamentous cysts sarcomas and hard ovarian tumors, etc	30
	132

VAGINAL OPERATIONS 44

Early section for recent disease	8
Late section for old disease	18
Single salpingo-oöphorectomy	1
Section for large ovarian cyst and its removal after tapping	1
Section for septic ruptured ectopic gestation	1
Hysterectomy for sepsis	10
Hysterectomy for fibroids	2
Hysterectomy for cancer	1
Hysterectomy for prolapse	2
	44

Vagino-abdominal operations for cancer 4 Total 180

Dr **Franklin H Martin** said that the best all around gynecologist was the one who selected the operation suitable for the particular case in hand It was impossible to do good surgery by operating suprapubically or by the vagina in all cases It was his belief that all major surgery could be done best through the abdomen, as a rule, while all minor surgery could be done by the vagina All surgery of importance should be done through the abdomen 1, because the surgeon could see what he is doing, 2, he could do what he wanted, and 3, he could do it quicker The cases he would reserve for the vaginal route would be those of carcinoma of the cervix of the proliferating variety, or flat cell epithelioma filling up the vagina, but which seldom extended beyond the cervix, and infected the lymphatic glands In all other cases, where there was any question as to cancer involving the vagina, he would remove the uterus from above, and if later it was found that the glands were diseased, he would remove them also Cases of double pyosalpinx, large fibroids cystomata, and all cases of extra uterine pregnancy should be dealt with suprapubically

Dr **Henry T Byford** held that to operate on all cases either suprapubically or by the vagina was unreasonable He believed that just as efficient work could be accomplished by the vagina as through the abdomen There were certain pathologic conditions in the bottom of the pelvis in some cases that could not be operated as well from above as from below He emphasized the importance of carefully selecting the cases for either route

Dr **James H Etheridge** thought the discussion had the appearance of placing the advocates of the two operations in the attitude of rivals He did not believe this He held that we have two separate things to deal with, and that good work could be done by the vaginal or suprapubic method of operating There were cases in which the vaginal route was applicable, while there were others in which the abdominal method was suitable, and the wisdom and experience of such men as Drs Price and Henrotin could define the limits of those cases to be operated upon vaginally and those that were best adapted to the suprapubic route A strong objection to the vaginal route was that operators worked largely in the dark Hemostasis was unsatisfactory and, added to this, there was danger of wounding the bowel He had seen one case in which death was caused from wounding the bowel, but which was only discovered postmortem

Dr **Reuben Peterson** said that any one who had done considerable abdominal work must have seen cases that he dreaded to approach by the suprapubic route For many years nearly all work was directed entirely through the abdomen in dealing with the pathologic conditions under discussion Each method had its field of usefulness and it remained for gynecologists to select their cases and choose the method to employ

Further discussion of this subject was deferred until the next meeting

Dr **Emil Ries** read an inaugural thesis entitled ' Results of the Extended Operation for Carcinoma Uteri

PRACTICAL NOTES

Artificial Serum in Epilepsy.—De Fleury announces that injections of artificial serum enhance the effects of potassium bromid in epilepsy, so that much smaller doses are effective, with two or three injections of serum a day.—*Gazette Méd. de Liège*, September 15.

Creosote and Ichthyol for Tuberculosis.—H. Goldmann reports marked improvement in patients treated with ten to thirty drops of the following after each meal; Creosote carbonate, 15 grams; ichthyol, 15 grams; glycerin, 30 grams; peppermint water, 10 grams.—*Semaine Méd.*, September 7.

Gelatin for Gastric Hemorrhage.—V. Poliakov of Moscow reports a case of ulcer of the stomach with cardialgia, pyrosis and almost daily vomiting of blood for four months, which he treated with 10 per cent. gelatin three times a day, 2 c.c., for four weeks. It cured the hemorrhage and gastric pains, with no recurrence to date.—*Semaine Méd.*, July 27.

Automatic Kelene Tubes.—The *Gazette Méd. de Paris* mentions with approbation the automatic tubes for local anesthesia with chlorid of ethyl, which require but one hand, a novelty exhibited at the French Dental Congress, adding that experiments with chlorid of ethyl for general anesthesia now in progress promise very encouraging results.

Operative Dislocation of Goiter.—This is proposed by A. Wolfler for cases of inoperable goiter which threaten suffocation or interference with other vital functions. The goiter is detached from its bed, without disturbing the arteries, and transplanted to another place where it will not interfere to such an extent, usually higher up or farther around. He thermocauterized one case to reduce the size of the goiter, but he thinks it probable that the goiter would recede without this.—*Beiträge z. klin. Chir.* xxi, 2, in *Cbl. f. Chir.*

Mercury for Snake Bites.—The *Tribune Médica* of Rio de Janeiro, for June 10, describes the recovery of a young man after having beeen bitten by a cobra, causing in fifteen minutes intense headache, absolute blindness, copious hemorrhage in the spot, with alarming sweating of blood. He was given two grams of calomel and two of rhubarb at once, the spot disinfected, and the calomel kept up, six decigrams every six hours, until he had taken five doses. The writer has cured 128 persons with this treatment.

Subcutaneous Rupture of Large Arteries.—Traumatic occlusion of the large arteries from immediate obliteration, or a gradual obliteration from thrombosis, may heal without accident, but it is usually followed by gangrene—thirty out of forty cases. When called at once, and the indications of arrested circulation are noted, the first step is a careful disinfection of the skin, followed by wrapping the member in a thick layer of cotton without compressing it. This will prevent septic complications and if gangrene does occur, the chances are in favor of its remaining localized. The extent and gravity of the gangrene will also be reduced if the collateral circulation is promoted with prolonged hot baths. As the gangrenous accidents proceed less from the localized traumatic lesion of the artery than from the consecutive thrombosis and compression produced by the effusion of blood, it is wise to open into the periarterial sanguine focus, at least during the first few hours after the traumatism, evacuate it and ligate the ruptured vessel. At a later period, if the gangrene is menacing, high amputation may be required, but sometimes unexpected results are obtained with embalming, combined, if necessary, with extensive incisions, injections of very hot boiled water and wrapping in compresses dipped in alcohol. When the gangrene is dry and circumscribed, radical intervention should be postponed as long as possible, as it may prove unnecessary.—*Revue de Chir.*, April and June, 1898.

Lead Oxid Test for Urine.—Loubiou recommends the following simple test as very sensitive to small amounts of albumin, rapidly clarifying the most turbid urine. 1. Put 10 c.c. urine in a test tube with one drop of phenol phthalein and add normal sodium drop by drop until the fluid is slightly pink, reversing the tube on the thumb after each drop of sodium. 2. Add 1 to 1½ gram of lead oxid, shake well and filter. 3. The pinkish tint is removed by the addition of a few drops of Tanret's reagent. The fluid is then brought to the boiling point and the albumin precipitated as usual.—*Bull. de la Soc. de Pharm. de Bordeaux*, July.

Midwifery Practice.—Muir (*Annals of Gyn. and Ped.*, September), in "Notes from Midwifery Practice," says that 75 per cent. of the gynecologists, so called, live from errors or incidents occurring during the parturition state, and that seven eighths of the women coming under his observation (about 1600 confinement cases) for treatment, have been delivered by forceps. "Many a first class, honest, careful physician is turned to one side because he gives his patients time to be delivered naturally, and another employed simply because he has the reputation of not allowing his patients to suffer, but uses chloroform and instruments early. The latter is the man who gives the gynecologist his inning." His rule is to never remove the placenta until he can feel the insertion of the cord quite easily, and he never gives ergot unless he knows his patient's habits and that it is indicated; he gives it hypodermatically. "Another thing I have learned by experience," he says, "is never to underrate the idea of the patient that things are not right. Time after time, I have been told this, but thinking it only some hallucination on my patient's part, afterward I have learned to my surprise, if not regret, that she was correct." In breech or foot presentations he has found the pain continuous, and in some cases was obliged to resort to chloroform, slightly, on account of the severity of the pain. He has never noticed an excessive quantity of liquor amnii in breech or foot presentations, but has in a case of club foot. Whenever he has found an excessive quantity of amniotic fluid, the pains have been continuous from the first, also excessive and unnatural, and the patient has believed all was not right.

Fritsch's Incision in Cæsarian Section.—Steinthal (*Centralbl. f. Gyn.*, April 9, 1898) reports a case of Cæsarian section illustrating a complication which may arise in delivery through the transverse uterine incision of Fritsch. The patient was 34 years of age, and exhausted by long labor. The cause of obstruction was a myoma. Steinthal performed Cæsarian section by the method of Fritsch. There was little hemorrhage, as the uterine and ovarian arteries were controlled by manual compression. The child was partly extracted by the feet, but the head was held firmly in the uterine wound. It could be released only by making a vertical incision in addition to the transverse. An elastic ligature was then passed over the uterus down to the tumor. The placenta was extracted with but slight loss of blood. The tumor was found to be a subperitoneal growth with a broad pedicle, springing from the posterior surface of the uterus at the level of the os internum. Several knuckles of intestines were adherent to the tumor and had to be separated. Hysterectomy was performed, and the stump stitched to the lower angle of the wound. The author remarks that the object aimed at in the transverse incision was defeated by the necessity for adding the vertical section. Dr. C. Jewett (*Brooklyn Medical Journal*, September) believes Fritsch's incision can scarcely have any advantage over the longitudinal, provided the cut is confined to the upper or fundal portion of the uterus. Transverse section does not necessarily avoid the blood-vessels. Incision strictly in the median line would probably result in no more hemorrhage. Moreover, the vessels are easily controlled by manual compression or by the use of the cervical constrictor. All the advantages claimed for the transverse incision are realized in the longitudinal, by limiting the uterine wound to the thickened upper portion of the uterus.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE
Per Annum in Advance $5.00
Foreign Postage 2.00
Single Copies 10 Cents

In requesting change of address give old as well as new location.

Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 61 Market Street (Occidental Bldgs.), Chicago, Illinois.

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SATURDAY, OCTOBER 8, 1898.

THE ANTITOXIN TREATMENT OF PNEUMONIA.

Dr. ANDREW H. SMITH of New York, in a recent paper[1] with the above title, read before the Association of American Physicians in May, states that it is very likely that in ordinary pneumonia there must be infection with succeeding generations of microbes. WELCH and others have shown that the virulence of the micrococcus lanceolatus is greatest when the coccus is youngest, that the most virulent microbes come from the edges of the consolidation. When the local process ceases to advance, it means that then young micro-organisms are no longer produced. This might be a reasonable explanation of the remarkable crisis in pneumonia, and yet the question arises what share do the antitoxic products play in the result?

As long ago as 1888 NETTER[2] showed that mice and rabbits can be made immune to the micrococcus lanceolatus by injection of fluid from the dried spleens of infected animals. FOA observed that attenuated cultures of the micrococcus may render an animal immune for several months. Taking the serum from an immune animal, he was able to produce immunity in a second animal by its injection. The KLEMPERER brothers verified these observations. They also found that dogs may be protected against pneumonia by the use of serum of immune animals. This serum does not kill the cocci in the body, but prevents the formation of toxins in the infected animal, either by hindering the toxicogenic powers of the cocci, or by rendering the toxin inert after it is produced.

The KLEMPERERS also showed that man is but slightly susceptible to the action of the micrococcus lanceolatus, especially to its action when injected subcutaneously. They conclude that in man it is not the exudation into the lung substance that renders pneumonia such a grave disease, but the general intoxication that results. Eventually antitoxin is produced and recovery may result. Serum taken from patients after the crisis, is found to have a curative action in dogs, and the crisis in human pneumonia is due to the production of antitoxin. The resulting immunity is in man only temporary, and while we await the formation of antitoxin we treat pneumonic patients by supportive measures, but in the meantime the old and weak die.

By using the antitoxic serum from animals apparent benefit in hastening the crisis has been observed, but a final conclusion as to the value of the treatment has not yet been reached. The following are some of the observations in regard to the serum treatment of pneumonia.

LARA used the serum of immune rabbits and dogs, as well as a glycerin extract from the viscera of immune animals, the latter was accompanied by less disturbance, producing no general symptoms. The crisis occurred in from three to five days, the convalescence was rapid and complete, and the reporter considered the results of ten cases thus treated as encouraging. BOZZOLO treated five cases with rabbit serum, the temperature fell rapidly in each case. Four recovered and one died after the crisis. DE RENZI states the results obtained by using antipneumococcic serum as decidedly encouraging. WEISBECKER obtained marked improvement in the subjective conditions very soon after the injection of serum obtained from patients recovering from pneumonia. One of the patients in whom these favorable results were observed was a 3-year-old child. The distressing subjective symptoms in many cases disappear as if by magic. WASHBURNE[3] in 1897 employed the serum of a pony which had been treated in the same manner as is now done in manufacturing diphtheria antitoxin, and this serum possessed marked protective powers. In some very unpromising cases this serum seemed to act favorably.

From this review of sero-therapy of pneumonia SMITH properly concludes that no decisive results have been obtained, but that there is sufficient to warrant further effort. There are very many difficulties in the way of this work. The extreme variability of the virulence of the micrococcus lanceolatus, and the corresponding uncertainty of the strength of the toxins produced are serious obstacles. Again, animals readily immunized may lose their immunity, and the serum from them becomes worthless. Hence conclusions can be established only with the greatest difficulty. Applying these laboratory observations to the clinical study of pneumonia, it will at once be seen that the difficulties are still further increased It is to be hoped that WASHBURNE's method of maintaining the virulence of the pneumococcus at a given point for a longer time may result in the production of a reliable antitoxin, and when a reliable antitoxin can be manufactured then the value of this treatment of pneumonia will soon be determined

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[1] American Journal of Medical Science, October, 1898.

[2] Quoted by Smith, loco citato.

[3] Journal of Pathology and Bacteriology, 1897.

THE MARRIAGE OF THE UNFIT

It comes, from time to time, within the editorial scope of the JOURNAL to notice propositions from medical sources to advance the public welfare by legislative or other limitations of the liberty or capacity of the individual to reproduce his species Sometimes it is in the form of a proposal to castrate criminals, sometimes in that of proposed or attempted legislation against the marriage of epileptics or other defectives, and it is not very long since, if we remember correctly, that a bill was before a certain State legislature to have appointed a sort of board of health to pass on the physical and mental—and we trust also the moral—condition of all candidates for marriage A similar proposition was, it is believed, also offered in France, but went no further than the medical, and probably some of the secular, journals, the conditions there at the present time exciting more anxiety on account of quantity rather than of quality of the population As a medical question, however, it is still a living one, and probably will be until our medico sociologic ideals and theories have more fully won their way into the practical usages of life, and can be effectively embodied into actually enforceable laws

In the London *Lancet* of September 10, Dr HARRY CAMPBELL publishes an article on "The Marriage of the Unfit,' that is as radical in its views, if not in its actual proposals, as any that have appeared upon this general subject He would prohibit or discourage marriage by, not only those who have suffered or are suffering from insanity, epilepsy, tuberculosis, heart disease, etc, but also by all who have or have had rheumatic fever, strangulated hernia, ovarian cyst, congenital defects of hearing, or any one of the chronic or acute functional nervous disorders, in fact, he would prohibit marriage altogether to that large class who are included under the general head of neurotics While he does not propose legislation to this effect he holds that as physicians, we should use all our influence to prevent marriage by those suffering from the above-named disorders and do our utmost to create such a higher ethical standard upon physiologic questions of this kind as would secure that such a self-denying ordinance could be possible on the part of the public that is specially concerned He goes even further in his enthusiasm for the welfare of the race, while, from a sociologic point of view, he condemns polygamy, as a biologist, he regrets its discontinuance in civilized communities, and wishes that it could be utilized for multiplication of the progeny of our athletes and intellectual giants

The basal idea of Dr CAMPBELL's argument appears to be that, while natural selection is interfered with in the human species, the subsequent modification of the process called by WEISSMANN "panmixia" is still more interfered with, and the result is a racial deterioration Mankind does not advance physically by natural selection and does not adapt itself to its environment by panmixia for the simple reason that every one follows blindly his impulse and recklessly procreates, whether fitted for the function by a good heredity or not Heredity is universal, the structure of any organ determines its reactions to any given environment, and structure is determined by heredity Hence, according to his theories, the importance of an unexceptionable heredity and the need of restricting marriage where such does not exist

The weak point in Dr CAMPBELL's argument—and it is the same in other similar statements of theories that would restrict marriage to any general or large extent—appears to us to be chiefly in that it does not take due account of the fact that Nature, in the operation of natural selection and panmixia, does not produce its results except through numerous experiments and failures, so to speak, and that these are as essential in its processes as are its successes If we could eliminate all morbid or variable heredity in humanity or any section of it, it would require an absolutely unchanging environment to preserve its immunity, and progress in any direction would be perilous or impossible The higher the state of culture or civilization the more complex are the conditions or problems of evolution and the more difficult will it be to modify them by any mere legislative restrictions or even by recommendations of individual self restraint We may advise as physicians but it would be presumptuous for us to expect our professional opinions to often outweigh the strongest personal impulses, to say nothing of social and other factors involved

The State can reasonably interfere in prohibiting the marriage of the insane and also—perhaps, with less prospect of success—that of the tuberculous and epileptics As regards the other disorders mentioned by Dr CAMPBELL, it is hardly likely that even medical advice will be often asked, much less accepted When we take account of all the vicissitudes of nervous and mental development and the absolute lack of any positive normal standards, any wholesale discouragement or even disparagement of the marriage of neurotics—including under this head all those who have suffered from functional disorders—might in certain points of view seem actually perilous to the welfare of the race The existence of a functional nervous disorder may be only an incident of a higher evolution, not by any means an indication of deterioration demanding the extinction of the family of the possessor

RENAL STONE

One of the most curious facts of our latter day science is the correction of statements of symptoms which have been calmly accepted by medical writers for many years It is perhaps too much to expect of a writer that he should have personally verified all statements of which he is the accredited author Indeed, the experience that would warrant one to write a book on such terms would take several centuries of constant clinical work and study to acquire Thus it is then that assertions made by many writers become finally elevated to the dignity of facts, and it is not until some self-assertive scientist, who only believes what he himself is able to prove, happens upon the scene, that the flimsy foundations upon which some of our most important diseases are constructed become suddenly undermined Again, with the accession of new instruments of precision many new symptoms are necessarily added and others are proved to be false

The introduction of the centrifuge into the examination of urine has elicited many facts not before in evidence, on account of the chemic changes occurring in this excretion during a lengthy sedimentation This instrument has brought out some new facts in regard to renal stone as related by MUSSER It has always been held by all authorities, and text-books have so stated for many years, that while hematuria is a common symptom in renal calculus, the appearance of blood is intermittent and can usually be appreciated by the naked eye , MUSSER has shown in some twenty cases that blood is persistently present, that is to say, from week to week, though individual specimens may occasionally show an absence of red cells after the usual examination While acknowledging an intermittent macroscopic hematuria, he claims and bears out his claims with laboratory facts, that blood in the urine is, in stone, a practically constant symptom, though oftimes the microscope becomes a necessity for its clinical demonstration "A few corpuscles only may be found, but one alone means hematuria" With the older writers, hemorrhage not appreciable to the naked eye necessarily escaped attention, and this latter symptom occurring only at irregular intervals, bears out their statements of an intermittent hematuria Thus it is with the introduction of new instruments symptoms once looked upon by us as well grounded, must, as a matter of course, undergo more or less change

On the other hand, a symptom assumed by almost all the writers on this subject as of constant occurrence pyuria, is claimed by MUSSER to be frequently absent He says "Of the twenty-eight cases I examined, in fifteen there was no pus in six a few cells of a very small quantity was found (four, womb, cause obvious) in one it was noted as considerable (old gonorrhea and syphilis, four examinations) in one only a small quantity (male cause assignable), in one it was small in amount, twice only in some fifty examinations in one it was abundant and due to genito-urinary infection as well as pyelitis" That the diagnosis of calculus was correct in these cases, subsequent operation or colic with the passage of the stone proved beyond a doubt From these facts, thoroughly worked up as they have been, the author is justified in his statement that pyuria is not a symptom of stone, except that there exist in addition to the calculus, some other lesion or lesions of the genito-urinary tract, which latter could of themselves account for the pus

In the microscopic examination of his cases, MUSSER has in many instances found hyaline casts, long and thin, undoubted evidence of renal irritation Other forms of casts do not occur unless a co existing nephritis be present This point, together with the presence of a small amount of albumin in a urine of high specific gravity, he looks upon as of great importance both from a diagnostic and prognostic outlook Here we have a symptomatology formulated, at once greatly opposed to the previous ideas held upon the subject, and it is to be hoped that further and more extensive observations will be made, that the diagnosis of this important affection shall not be compelled to remain in doubt

ACROSS THE PACIFIC IN TRANSPORTS

Manila is a long way from the United States The troops of the first expeditionary force sent out to support Admiral DEWEY passed thirty-seven days on shipboard before coming in sight of the scene of their future operations They embarked May 24 at San Francisco, Cal , and reached Manilla bay on June 30 It takes a much longer time for detailed medical reports of the voyage to make the return passage across the ocean and the continent to the Surgeon General's Office at Washington, D C , because they have to pass through so many headquarter offices while en route Sanitary reports are called for by the Surgeon General on the last day of every month, and some of those written June 30 by medical officers who accompanied the expedition have but now reached their destination These give a brief but interesting view of the conditions affecting the troops on their long voyage and in them there is nothing of the sensationalism which attended the movements of nearly every troop ship on the Atlantic side of the country

The steamship *Australia*, which carried General ANDERSON, his staff and 777 officers and men of the Second Oregon Infantry, was a passenger steamer hastily fitted out as a troop ship The berths were originally planned to be in sections of five abreast and three tiers high, but as it was considered that this would crowd the men too much, the middle row of berths was removed from each of the sections so as to have an aisle or free passage-way between every set of two rows Major M H ELLIS, surgeon of the regiment, regarded these berths as commodious and comfortable considering the conditions The men occupying those parts of the vessel that were most crowded or least desirable were permitted to bivouac on the main and hurricane decks in favorable weather, and the weather was favorable during no less than thirty-five of the thirty seven days The *City of Sidney*, which touched at Guam Island, carried 398 officers and men of the Fourteenth U S Infantry, 343 of the Second Oregon Infantry, 21 marines and 60 Spanish prisoners, without inconvenience or overcrowding, according to a report by Captain H E McVAY, assistant surgeon, U S Army The water supply was pure on both vessels It is reported of the *Australia* that after leaving Honolulu the issue of water was kept under careful surveillance to prevent waste The average daily consumption by the troops and crew was 1,200 gallons, of which one-half each day was condensed and filtered through charcoal All refuse material was thrown directly into the sea, and the latrines were constantly flushed with running water The food supply was ample, although bacon was but little used Dr ELLIS considered that the absence of fruit from the food issued to the men, with the sedentary habits necessarily imposed upon them by confinement on board ship, was productive of a tendency to constipation Dr McVAY characterized the clothing as wholly unsuited to the climate The blouse, cap, campaign hat and underclothing were all too heavy, and the overcoat a mere incumbrance Canvas uniforms were issued during the voyage to the troops on the *Australia*, but these were found also to be too heavy It is to be noted, however, that after the arrival at Cavite light underclothing and gingham blouses were immediately issued, and it is reported that the campaign hat proved more serviceable than was expected, for during the heavy rains it was preferable to the cork helmet

Notwithstanding the difficulties in the way of effecting cleanliness of the person and of the clothes, the condition of the troops at the end of the voyage was commendable On the *Australia* the underclothes of the men were regularly exposed to sterilization by steam in the absence of laundry facilities The health of the men was good Measles prevailed on the *City of Sidney*, but no case was serious One death occurred on this vessel from appendicitis, for which operation was performed

These records of pleasant and healthful voyages on the Pacific lead us to consider whether the War Department, under whose orders they were made, should be held responsible for the sickness and suffering incurred on other troop transports sailing under similar orders and under the same military regulations

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Suicides in Italy —During 1897 suicides numbered 1997, which corresponds to a mortality of 8 41 for every 100,000 inhabitants The majority of the cases were in provinces where the ratio of illiteracy was the lowest

CORRESPONDENCE

Camp Thomas and the Second Division Hospital—The First Army Corps

INDIANAPOLIS IND , Sept 24, 1898

To the Editor —In view of the great concern now being manifested with regard to our military hospital service, I feel that a short statement as to the real condition will not be amiss

Leaving Indianapolis as Surgeon of the One Hundred and Fifty eighth, with Dr H I Jones, First and Dr Paul Barcus, Second Assistant Surgeon, we reached Chickamauga, May 18, 1898 The country was slightly rolling, with an almost regular alternation of wooded and open land Everywhere were evidences of a lime formation, with many vertical out croppings of the strata In the necessary trenchings the soil was found to be a clay so impervious to water that collections in sinks, etc , would evaporate rather than seep away into the subsoil Owing to the rocky formation at the depth of about seven feet, sinks were at that time a practical impossibility On May 25 I was ordered away from the regiment and detailed as Division Surgeon, having charge of the Second Division Hospital, First Army Corps At this time there was more or less confusion in all departments, nor could anything else be expected There were thousands of troops pouring in daily, few of whom were experienced in the matters of government account, all eager and questioning as to their individual duties It is a matter of wonder that the service was conducted so well We were on the line of the Southern R R and traffic was tremendously congested, the time not having allowed of building of switches and facilities for loading and unloading cars For a short time it was a question of doing the best that could be done until these faults might be remedied and the various departments maintained with some system I saw no instance nor heard of one where these temporary delays caused either suffering or hardship

Early in June I was ordered to begin the formation and organization of the Second Division, First Army Corps Hospital Police details were made, and requisitions forwarded asking for the necessary supplies These could not always be immediately had for the asking, but never was I told to "rustle" for myself The officers at the supply stations were universally courteous, and particularly Major Comegys, Chief Medical Purveyor With certain articles not at hand, the question would naturally follow, when can I get them? Whereupon the reply would likely be "I can not say definitely , they have been shipped and as soon as they reach us you will be welcome to them " Often the invoice would be shown showing date of shipment from the contractors This uncertainty was, I suspect, in a large measure due to inadequate railroad equipment and an enormous shipment of all sorts of supplies As time went on these difficulties were obviated and delays became fewer and fewer The hospital was soon opened, the regular United States army hospital tent being used, these were floored The natural drainage of the site was good Our water supply came from distant springs, being hauled in new, clean, sweet oak barrels Later, filters were added to our equipment, and the question of water supply was settled for all the time we remained in Chickamauga Food was always sufficient and of good quality On rare occasions the milk supply would be found sour, leaving us until the following day short of this one article of diet, which was invariably made up by soups, broths, bouillons, etc The medical supplies and surgical outfits, so far as essentials were concerned, was ample Men with pet remedies and hobbies would probably have been disappointed Flies were present throughout this great camp in unnumbered millions, but for this the medical department refuses to assume responsibility We met this annoyance by use of musquito nettings The success of the measure was not complete, for much of the time the weather was close and sultry to an extreme In going through the wards these nettings would be found wadded up and lying on the foot of the patient's cot or on the floor, with the explanation that it was thought to be cooler without them, that "they stop the breeze," etc So, in many and the majority of cases, these sick boys chose what little breeze might be finding its way into their quarters, and fanned the flies away in preference to being covered by a mosquito bar When we left Chickamauga it was with 100 large, new, unused and uncalled for mosquito bars

As to the criticism of their being too many autopsies, personally I remember of but two, and there was a universal feeling that where it could be dispensed with it should be so in consideration of "the folks at home" This criticism is uncalled for and absolutely can not be substantiated Up to the time of treating about 900 patients there had been but fourteen deaths, one of these a broken neck, another a typhoid hemorrhage that occurred on the night of the afternoon of admission, still another of cerebral effusion, when death occurred on the same day These are just three of the fourteen that I happen to recall, and when you consider the seriousness of the class of cases treated, the record can stand almost without a challenge Inspectors from the Medical Department at Washington were frequent in their visits, and their reports gratifying to the entire hospital staff

In the One Hundred and Fifty eighth Indiana, during the almost five months, there have been but five deaths, and this an organization of over 1300 men living under new and perhaps adverse circumstances, and certainly with a most radical and complete change in their habits of living This, I believe will speak for itself Instead of indulging in cheap criticism I would rather feel the gratification of great work accomplished in wonderfully short time and practically without any preparation

Fred R Charlton, Major and Surgeon,
One Hundred and Fifty eighth Vol Infantry
224 North Meridian St

Judge Kohlsaat and the Probate Court

Chicago, Oct 3, 1898

To the Editor —As long as the medical profession prides itself on keeping out of politics, it will be discriminated against by the politicians and the courts The action of Judge Kohlsaat toward our profession and our bills has become so outrageous that it is of vital importance that we take steps to protect ourselves from his lawless treatment The judge has made some rulings about which every one of us should know and we should thoroughly understand their effects on our welfare There have been many criticisms of his arbitrary rulings, but two in particular which are thoroughly authenticated I will give It must be understood that only claims against estates come up in the probate court The two decisions which, according to his own statement, are permanent in his court, are as follows First "I will not allow more than one doctor bill against an estate" This statement was made to the writer in the presence of Dr Bayard Holmes Dr John A Robison is authority for the second, which is "I will not allow any doctor's charge of more than $2 a visit' But few words are needed to emphasize the utter injustice of these decisions Not one operation in a thousand can be safely performed by one doctor working with other than professional assistance It is essential to have two or more physicians at every operation of importance but only one of them can secure remuneration for his services before Judge Kohlsaat I have a patient who lives nine miles from my home and at every visit I spend an hour dressing two large suppurating wounds Judge Kohlsaat thinks $2 ample remuneration for this work A short time ago I was called out at 1 o'clock A M , and found a man with impaction of feces, in pain like a woman in labor, with perineum bulging two or three inches under the involuntary straining, the patient in imminent danger of rupturing an intestine or a blood vessel I spent three hours with hot soap water, an irrigator and a spoon in removing the contents of the rectum and opening up the bowels A more disagreeable task it would be hard to find, and yet had my bill come before Judge Kohlsaat he would have considered $2 ample pay

If Judge Kohlsaat's decisions were in accordance with the law, an anesthetist could not recover pay for his services and neither could the consultant There would be nothing left but for them to demand their fees before responding to a call I have no doubt that Judge Kohlsaat has many times, as a lawyer, charged, in his office during office hours, $10 for answering a question involving a few hundred dollars Some lawyers have told me that it is the probate judge's business to protect estates I understand that it is the province of a judge to see that justice is done between litigants, and not to take one side or the other under his wing and waive off all claims whether they are just or not If it is foreordained that one judge is to decide all cases which come before him in favor of the defendant, and that another will decide all cases coming before him in favor of the plaintiff, we might as well abolish courts altogether People who inherit money are very apt to grasp at every dollar and to be unwilling to pay even the most sacred obligations of the man who accumulated the money and left it to them There are altogether too many men who are willing to live at the expense of others, and particularly are they willing to be parasites on the medical profession But why should such avaricious parasites be the special wards of a court that has been instituted to the end that justice and not injustice prevail? Judge Kohlsaat has allowed three liquor bills against one estate, but he will not allow more than one doctor bill Are liquor bills three times more important than doctor bills? Judge Kohlsaat seems to think so It is likely, however, that liquor dealers are three times more active in politics than doctors are If we, as a profession, will be a little more active in politics, we will be treated a little more respectfully by politicians and by courts

Judge Kohlsaat arrogates to himself the right to establish for our profession a fee bill and to control our method of doing business, and since he does so he is not a fit man to hold the position he occupies, and I propose that we unite and oppose his re election with all the influence at our command I now have the names of twenty five republicans who have promised to vote against him at the coming election, and if each doctor who is in sympathy with this protest will get ten republicans to vote for his opponent, we can defeat him and then we may hope to have our position in the community respected and our services appreciated even in the probate court

D H Galloway, M D

Tubal Pregnancy at About Two Weeks

Washington, D C , Sept 27, 1898

To the Editor —The report of the case of tubal pregnancy with rupture at about the fifth week, by Dr J L Cowles of Los Angeles, Cal , in the Journal of September 17 recalls a case of early pregnancy in which I made a postmortem examination April 1 1898 on the wife of a physician who had suddenly died She was 28 years old and had been married ten months Her menses had recurred regularly the last period being about the middle of March and unusually profuse March 30 there was a show of blood by the vagina, two weeks after cessation of the last flow April 2 sudden nausea, omiting and tendency to collapse but no pain Death next day about twenty four hours after these symptoms appeared The postmortem examination showed a general bloodless condition,

and a large quantity of blood and clots in the pelvic cavity The uterus was three inches long and contained a decidua The right tube just beyond the tubo uterine junction was somewhat enlarged and showed on its upper side an opening of rupture The ovum was found and was about two weeks old, the membrane and villi distinct but the embryo not distinguishable The right ovary contained a corpus luteum There were old peritoneal adhesions around the left tube and ovary The specimen is in the museum, No 10,545 The husband stated that intercourse occurred on the second or third day after cessation of menses D S LAMB, A M, M D,
Army Medical Museum

PUBLIC HEALTH

Variola and Tuberculosis—Landouzy called attention ten years ago to the fact that variola predisposes to tuberculosis, and Lop now reports sixty four observations that confirm the statement, with fifty four from Professor Revilliod and twenty two from Chauvin The tuberculosis is more severe as the intervening period is shorter —*Bulletin de l'Acad de Méd*, September 6

Treatment of Nervous Dyspepsia—Murdoch (*N Y Med Jour*, September 24) believes strychnin and electricity the most efficient agent in restoring the lost balance of the secretory nerves, while bathing is not to be neglected and diet to be properly regulated Much patience is required on the part of both patient and physician Often patients take too little food, only increasing the difficulty, the stomach also suffering from lack of nutrition

Venereal Diseases in the Russian Navy—The report of the Sebastopol division shows that the strict hygienic measures, careful medical supervision and instruction of the men in regard to venereal diseases by popular lectures, reduced the number of cases from 887 in 1893 to 556 in 1894 The number of soft chancres fell from 297 to 70, and the proportion of venereal diseases in the hospital from 45 to 25 per cent, in spite of the onstant increase in the number of the marines —*St Petersb led Woch*, September 4

Nitrous Poisoning By Canned Food—A special committee of the ondon Chamber of Commerce has for some time past been engaged in investigating cases of alleged poisoning through eating tinned foods, with the result that it has generally been found that such allegations were unfounded The latest case investigated was that of a young woman whose death was said to be due to ptomain poisoning consequent on eating tinned salmon, the contents of her stomach having been analyzed by Dr Stevenson of Guy's Hospital, the well known Government expert Dr Stevenson's opinion was that the death was due to poisoning by niter, and could not be attributed to ptomain poisoning through eating tinned salmon In the course of his evidence Dr Stevenson said that if, as had been stated, as many as 209,000,000 tins of food were consumed in one year, the cases of poisoning were infinitesimal His opinion was that so far from ptomain poisoning being specially identified with tinned provisions, it also arises in connection with fresh meats of all kinds

Yellow Fever—Since the reports from the South, in our last issue (p 803), the press dispatches have given the following data September 27, 5 new cases were reported at Jackson, Miss, 4 at Taylor's Station, 2 at Orwood, 4 deaths at Oxford, 1 new case at New Orleans, with 1 death, 8 cases at Wilson, and 5 deaths at Franklin, the total cases at this town being 129 to date The reports for September 28 give 5 new cases at New Orleans, with 1 death, 11 new cases at Wilson, 8 at Franklin, 1 at Oxford, Miss, and 2 suspicious at Clinton, near Wilson September 29, New Orleans reported 1 new case, Houma 1, 4 at Wesson, 8 at Franklin, 2 at Taylor's Station, Miss, and 3 at Oxford Six new cases at Wilson, 13 at Franklin, and 1 at Jackson, Miss, and 6 with 2 deaths at New Orleans, make up the record for September 30, while October 2 reports gave 2 new cases at Taylor's Station, 1 at Oxford, 10 at Jackson, 3 and 2 deaths at Harriston, and 1 suspicious case at Port Gibson As we go to press, dispatches of October 3 announce 9 counties and 13 towns infected in Tennessee The Port Gibson case is declared genuine, 1 new case at Jackson, 2 at Water Valley, and 16 with 1 death at Oxford

School Quarantine in Diphtheritic Cases—Dr Hand of Philadelphia has offered a suggestion which, if fully and officially confirmed, will tend to lighten the onerous treatment of scholars, teachers and nurses in our public schools and elsewhere who have been the subjects of school detention on account of diphtheria *His suggestion is not unreasonable, and it appeals to* our conservative feelings, in that it appears to open the way to a reduction of the term of ostracism now regarded as necessary by very many of our health officials He has recommended a solution of nitrate of silver, 60 grains to the ounce of water, to rid the throat of bacilli after the disappearance of diphtheritic membrane Often after the throat is entirely clear and the patient apparently well, examination shows that bacilli are still present In such cases quarantine must still be observed Hand reports good results from this method, the bacilli usually disappearing within a very few days The solution should not be used until the membrane has disappeared Now it may be that the silver solution may be less desirable than some others It may be that a solution of formalin will "fill the bill", we incline to think it may, but we trust that Dr Hand's suggestion may lead up to a mitigation of the scholastic penalties that are visited upon diphtheritic pupils in almost all of our cities —*Cleveland Med Jour*

Free Medical Assistance in France—We note in the official reports that France, with a population of thirty eight millions and a half, has nearly a million and a half of indigent persons, of whom 375,000 are inscribed as sick The country physicians are paid to attend them and the total thus disbursed in 1895, the first year the scheme was practically in operation, amounted to 1,771,472 francs Each one of the 12,000 practitioners received, on an average, about 150 francs The average to each physician is thirty patients, with three or four visits to each, at about thirty cents (a franc and a half) for each visit The *Gazette Méd de Paris* observes that there are a number of departments in which this service is not yet fully organized, and there are many districts too poor to meet the expense, others in which the remuneration is much below the average, "but on the whole, the philanthropists who have conceived and carried this law into execution have accomplished an excellent work, from the social point of view, if not from the medical " The total expense includes hospital and midwife service, transportation, instruments and medicines, and amounted to 4,898,680 francs This expense was shared by the community, the department and the State, respectively 3,600,002, 1,104,710 and 305,196 francs The first article of the law states in effect "Every sick French person without resources receives, free of charge, from the community, the department or the State, medical care at home or in a hospital Lying in women are included in these provisions Sick foreigners without resources are also included if the government has entered into a treaty of reciprocal assistance with the nation to which they belong "

Good Sanitary Results at Santiago de Cuba—General Leonard Wood, M D, as military governor of Santiago de Cuba is almost working miracles with the dirty old town Along with a committee of surgeons he has made a house to house visitation, and enforced a general cleaning up of houses and other buildings as well as of streets and public places At the time of American occupation the deaths in Santiago numbered 103 a day, but after three weeks of General Wood's rule they had been reduced to 37 a day Our editorial prediction of the salutary results that would follow General Wood's appointment as military governor of Santiago have been verified In this relation the *Medical Record* says that under General Wood's system Santiago is divided into five sections, each one under the general supervision of a medical man, who has under him inspectors of sewers, streets, houses and dispensaries, and a number of street cleaners Five hundred cubic yards of refuse are burned daily, disinfectants are distributed wherever they are needed, and a heavy fine is imposed for uncleanliness or for any failure to report unhealthful conditions and deaths The results are shown in a decrease in the death rate within a month from an average of seventy to one of twenty a day Among the troops the principal diseases are typhoid, malarial and yellow fevers and dysentery, The cases of yellow fever, several of which have been among the so called immunes, are few in number and the disease is of a very mild type The mortality from malaria or dysentery is much greater than that from yellow fever Now that the Spanish troops have all left for Spain, it is hoped that yellow fever can be made still less dangerous through the continuance of Dr Leonard Wood's good work

Scarlet Fever of Swine and Kine—In the *Centralblatt für Bacteriologie*, Dr Behle of Frankfort has a paper on the above subject It has for several years been, in England and Germany at least, fairly well proven that kine are susceptible to scarlet fever, though in a modified form, dependent on histologic and other difference, transmitting it again to man, in whom it resumes its normal characteristics The disease of swine, known as *rothlauf* in Germany, and as *rouget* in France, is in England popularly called "pig's scarlatina," on account of the red erythematous eruption on the skin, but the absence of renal phenomena, and the fact that lesions of the intestines are an essential feature, would suggest a nearer relation to enteric fever But Behle reports a remarkable outbreak of what appears to have been the true human scarlet fever in swine He states that in a district where *rothlauf* had never been known, a severe epidemic of scarlet fever among the children was followed or accompanied by a very fatal disease among the pigs at the same farmhouses and cottages The symptoms included erythema, angina, albuminuria, and those of uremic poisoning, which (or the angina) were the usual causes of death, while in such as recovered desquamation of the skin was well marked The lesions in the kidneys, observed after death, were very characteristic A previously healthy pig having been inoculated with the blood of a child suffering from a severe attack, died after a week's illness with symptoms and postmortem appearances which were identical with those seen in the human subject and in the animals which had contracted the disease presumably from the children or from one another If the facts be correctly reported, the conclusion that swine are susceptible to true scarlet fever is irresistible

Vaccination Laws of Pennsylvania—Dr Benjamin Lee, in *Public Health*, September, speaks favorably of the situation, in his State, as to the prevention of smallpox The existing enactments are not up to the ideals of an experienced sanitist, but they accomplish great good He says to his colleagues in health work "We shall make a great mistake if we attempt to interfere with the law I believe that with persistence in enforcing it our people will become educated to it and the difficulties will vanish" The phase "successful vaccination" is the stumbling block, and I believe that every local board has the right to interpret that phrase and give the decision according to its judgment The decision of the State Board of Health, by resolution, is to the effect that "successful vaccination" means vaccination proven by the characteristic mark of vaccination on the skin, that nothing else would be proof of successful vaccination It is unquestionably true that the school board must accept the physician's certificate, and if the physician is willing to perjure himself I do not see what the board of health is to do except to proceed against the physician The physician is the one who is putting himself in a false position Now comes the question, is it worth while to prosecute physicians who undertake to avoid the law in that way? My belief is that the proportion of such physicians is so small that it would be a mistake to attempt it We do not want to start any agitation in the community which would lead to another attempt such as was made during the past session of the Legislature, when an attempt was made to defeat the vaccination clause of the law of 1895, but fortunately the law stands as before You can scarcely imagine how strong the appeal was Petitions came from all parts of the State through the efforts of the Anti Vaccination Society, and we do not want to give them any such chance again If boroughs and cities will enforce the law correctly there will be no trouble

Advantages of London in the Study of Smallpox and other Contagious Diseases—At the present time five of the admirable hospitals of the London authorities, the Eastern at Homerton, the Western at Fulham, the South Eastern at Deptford, the South-Western at Stockwell, and the North Western at Hampstead, are open to students and medical practitioners, while instruction in smallpox is also afforded at the smallpox ships in the Long Reach, near Dartford A student desirous of taking a course at one of the hospitals must have completed his third year and have held the offices of clinical clerk and dresser, he must then obtain the sanction of the medical school to which he belongs and pay a fee of three guineas for the first three months, and one guinea for each subsequent month, to the clerk of the board, from whom he receives a card indicating the hospital to which he is to be attached At this hospital he must attend at stated times for at least two days in the week for a minimum period of two months, and on the completion of his attendance he receives a certificate from the medical superintendent whose lectures and classes he has attended While in the hospital the student places himself under the the control of the medical superintendent, and is bound to observe the regulations in force for the prevention of spread of infection These rules comprise the wearing, while within the hospital wards, of brown holland overalls, consisting of coat, trousers, and cap, which are provided by the board, and the use of what may be termed a discharge block, which consists of an infected room where the overalls are left, a lavatory, and a theoretically uninfected room The students are further required to keep their hair short and to be efficiently protected affainst smallpox A duly qualified medical practitioner has equally to conform to these regulations and must obtain the consent of the medical superintendent of the hospital at which he elects to attend The student who attends these courses will obtain a fair knowledge of infectious disease, which will stand him in good stead in years to come, while he will also get an insight into the management of fever hospitals and the methods of disinfection practiced therein The provisions with regard to instruction in smallpox differ somewhat from the above, as it is necessary for the student to reside for two weeks or upward on the smallpox ships, where he is provided with rations, apartments, and washing at an extremely moderate sum The student has to travel to and from the hospital ships on the ambulance steamer and to furnish himself with a suit of clothes to which he does not attach much value, in order that it may be disinfected or destroyed at the termination of the period

Another So Called "Water Famine" in London—The situation in the district supplied by the companies that deliver water to the northeast of London, has not altered for the better during the latter part of August and the early part of September, for the heavens still refuse rain [illegible] materially for the worse and that the public health remains fair must be looked upon as a piece of good fortune for the company, commensurate at least with the bad fortune which they are experiencing in running short of water during a drought For if an epidemic of any kind should break out in northeast London the medical men would have hard work to keep the mischief under when deprived of the most natural and efficacious remedy against zymotic diseases, water Proceedings are now being taken to place the mains of the company in communication direct or indirect with those of the other companies, and when this has been done all fear of an absolute water famine will be at an end But with the tiding over of the temporary difficulty we hope that the occurrence of these annual breakdowns will not pass from the recollection of the people of London They ought not to occur, and if the company can not prevent them the company would appear to be unable to carry on its business There is an alternative It may be said that the company can manage its works at least as well as any municipal or central body would be able to manage them, but that if there is no water it can not be supplied In this way the relations during the last two or three summers of the East London Waterworks Company with their clients form a strong argument for the augmentation or alteration of the present source of the metropolitan water supply It is said that in East London two million people now have their water supply only four hours a day at the most "We do not wish to inspire alarm, but if the present abnormal condition of meteorologic things continues, the consequences may be most serious The rivers are depleted to the utmost The drains are not adequately flushed and there is little flow in the upper reaches of the city to carry off the daily discharge of sewage," says the *Lancet*, and points out the necessity, if disaster is to be warded off in the future, of seeking new and adequate sources of water supply It argues that this supply must come from Wales As an illustration of its argument the *Lancet* mentions Loch Katrine in Scotland, which is now lower than it has been in seventeen years The depreciation in its water level is now about ten inches, and yet it is still an unfailing source of supply for Glasgow "It is a similar source of supply," says the *Lancet*, "to which, in view of the present conditions, London must turn, though not so favorably situated as Glasgow in this respect There is, however, the wonderful and inexhaustible watershed of Wales to which we may turn "

BOOK NOTICES

Manual of the New York County Medical Association Cloth Pp 60 New York Geo L Goodman & Co , 1898

This, the 1898 edition of the "Manual," contains the revised by laws as adopted May 16, 1898, and the "Code of Ethics" of the AMERICAN MEDICAL ASSOCIATION, with list of members

Michigan a Summer and Health Resort State By ROBERTS P HUDSON Paper Illustrated Pp 142 Lansing 1898 Robert Smith Printing Co , State Printers

This volume was compiled under the direction of the Michigan State Board of Health and "issued in compliance with a concurrent resolution of the legislature " It is gotten up on excellent paper, and contains many excellent illustrations of Michigan resorts, etc , in colors

Bulletin of the Harvard Medical Alumni Association No 12 Paper Pp 64 Boston Published by the Association, 1898

The "Bulletin" contains a report of the eighth annual meeting, held in Boston, June 28, 1898, officers of the association, constitution, address by the president, report of the committee on the medical school, etc It is on excellent paper and the presswork likewise excellent

Transactions of the Michigan State Medical Society Vol xxii Cloth Illustrated, pp 452 Published by the Society, 1898

These "Transactions" are for the thirty third annual meeting at Detroit, May 5 and 6, 1898 The papers presented at the session and included in the volume are grouped under the heads of "Septic Diseases of the Abdomen and Pelvis," "Obstetrics and Gynecology," "General Medicine," "Surgery and Ophthalmology " Under the first heading are papers on "Etiology," "The Blood," "Septic Infection of the Peritoneal Cavity, its Diagnosis and Treatment from a Medical Standpoint " "The Medical Treatment of Septic Peritonitis," "The Treatment of Septic Diseases of the Pelvis," "The Haughey Suture " Other papers are "Bottini's Operation," "Nephrectomy," "May a Rapid Pulse in Appendicitis Contraindicate Operation?" "Reflections on the Treatment of Appendicitis " "The Frequency, Causes and Prevention of Post operative Ventral Hernia," "Transillumination of the Stomach with Demonstration on the Person," 'The Four Tonsils," "Practical Value of Diagnosis of Presentation in Instrumental Delivery," "Some Anomalies of the Kidneys," "Kraurasis Vulvæ," "Physical Training an Essential Factor in the Radical Curative Treatment of the Pelvic Disorders of Women," etc

Transactions of the South Carolina Medical Association Paper Pp 262 Charleston 1898

The forty eighth annual meeting of the society was held at Harris Lithia Springs, April 13 and 14, 1898, and the papers presented at that session are included in this volume The following reports contain much of value On Obstetrics, on Ophthalmology, on Laryngology and Otology, and on Practice of Medicine The papers number twenty three The are also various reports of committees, list of presidents and meeting places for the last decade, officers for 1898-99, besides the minutes of the annual session and memorial notices of Drs Charles Rhett Taber, Oliver Miller Doyle, William Joseph Garner, Alex N Talley, Thos Jefferson McKie and Cornelius Kollock

Transactions of the Maine Medical Association 1898 Vol xiii Part 1 Paper Pp 240 Portland 1898

This volume of transactions covers the fifty sixth annual meeting held in Portland, June 1-3, 1898 The following papers are included in the volume President's Address, "Iatro Theurgic Symbolism" , "The Local Treatment of Sinuses of the Extremities" , "Accident as a Cause of Appendicitis" , ' Cæsarian Section on Account of Cyst of Ovary" , "Tuberculous Bone Disease" , "Talipes Equino Varus, with Report of a Case Successfully Treated by Cuneiform Osteotomy" , "The Treatment of Uterine Displacement" , "Myxedema as a Form of Anemia" , "Treatment of Diabetes Mellitus" , "Management of Epidemics of Diphtheria in Isolated Communities" , "Notes on a First Series of Ten Thousand Eye Patients in Private Practice" , "Relation of Medical Experts to the Courts and to Each Other" , "Necessity of Additional Hospital Accommodations for the Insane" , "Unusual Sized Rhinolith Removed with the Lithotrite, etc " , "Anastomosis of Gall Bladder with Large Intestine by Means of the Murphy Button" , "Case of Cerebro Spinal Meningitis, with Extraordinary Range of Temperature "

PAMPHLETS RECEIVED

Abscess of the Septum Narium By W E Casselberry Chicago Reprinted from Jour Amer Med Ass'n

Acute Chloral Dementia Simulating Paretic Dementia the Value of Surgery in Nervous Diseases By Henry Waldo Coe, Portland Ore Reprints

Advances in the Domain of Preventive Medicine By F M G Carter Waukegan Ill Paper Pp 13

Advantage of Physical Education as a Preventive of Disease By Charles Denison Denver, Colo Reprinted from the Bul Am Acad of Med

Beneficial Effects of the Withdrawal of Bromids in Treatment of Epilepsy Case of Amaurotic Family Idiocy with Autopsy New Paths in Psychiatry Vibratory Therapeutics By Frederick Peterson, New York Reprints

Contagion and Infection with Reference to Yellow Fever By C Faget, New Orleans La Reprinted from N O Med and Surg Jour

Contribution to Surgery of Gastroptosis and Enteroptosis, Preparation of Patient for Operation By Byron B Davis Omaha, Neb Reprints

Contributions to Orthopedic Surgery By James W Cokenower Des Moines Iowa Paper Pp 21 Illustrated

First Annual Meeting of the Medical Society of the State of Wyoming Paper Pp 10 Portland, Ore Medical Sentinel 1898

Fracture of Femur and Its Treatment By W A Kuflewski Chicago Reprinted from Chicago Clinic

Glaucoma with Detachment of Retina, Orthoform and Extract Suprarenal Glands By W Cheatham Louisville Ky Reprints

Hemorrhagic Glaucoma—Report of a Case with Micro-photographs Report on Use of Argonin in Gonorrheal Ophthalmia Acute Inflammation of the Middle Ear A Case of Tenonitis The Determining Cause of the Site of Ulcers on the Nasal Septum By E C Ellett, Memphis Tenn Reprints

Kalatonia By Frederick Peterson New York and Charles H Langdon Poughkeepsie N Y Reprinted from Proc Am Medico Psycholog Ass'n, 1897

Pathogenesis of the Nasal Reflex Neuroses By Walter A Wells Washington, D C Reprinted from Phila Med Jour

Principal Poisonous Plants of the U S By V K Chesnut Bulletin No 20, U S Dep t of Agri, Division of Botany Paper Illustrated Pp 60 Washington D C Government Printing Office 1898

Report of Case of Acute Glaucoma Complicated by Cataractous Formation of Lens etc By S Potts Eagleton, Ocala Fla Reprinted from Ga Jour of Med and Surg

Report on the Care and Prevention of Rinderpest By Geo Turner and Wilhelm Kolle Paper Pp 87 Cape of Good Hope Dep't of Agri Cape Town Richards and Sons 1898

Rheumatic Pharyngitis By Lewis S Somers Philadelphia Reprinted from Med News

Sarcoma of the Medulla Oblongata and Pons By O H Fretz Quakertown Pa Reprinted from Phila Polyclinic

Second Hospital for the Insane of the State of Maryland By Geo H Rohé, Sykesville, Md Reprinted from the Am Jour of Insanity

Sectarianism in the Medical Profession By G W Brooke Ellsworth Ohio Reprinted from Cleveland Jour of Med

Semi Annual Report of Loomis Sanitarium for Consumptives By J Edward Stubbert Liberty N, Y Reprinted from Phila Med Jour

Some Remarks Concerning Rectal Affections, with Especial Reference to the Physical Exploration of the Rectum By Lewis H Adler Jr Philadelphia Reprinted from Therapeutic Gaz

Treatment of Chronic Naso Pharyngitis By Lewis S Somers Philadelphia Reprinted from Memphis Lancet

TRADE PAMPHLETS

Caroid American Ferment Co, Jersey City N J

Catalogue of Edison Batteries Edison Mfg Co New York City

Cremation Disinfection Sterilization W F Morse New York City

Kryofine C Bischoff & Co New York City

Medical Department College of P and S of San Francisco Cal

Report of Kensington Hospital for Women 1896-97 Paper Illustrated Pp 36 Philadelphia

Stuebenville Sanitarium, Hornellsville N Y

University Medical College Kansas City Mo Announcement 1898-99

SOCIETY NEWS

Wyoming Medical Society—The next meeting of the State society will be held at Rock Springs, Wyo, Nov 1, 1898

The Erie Railroad Surgeons' Association—This association will hold its annual session at the Grand Pacific Hotel, Chicago, Oct 19 21, 1898 W W Appley, M D, Cochecton, N Y, is secretary and treasurer of the association

Railroad Surgeons' Meeting—The Association of Surgeons to the Pennsylvania Company West of Pittsburg will hold its annual meeting in Cleveland, Ohio, October 11 E C Brush of Zanesville, Ohio, is President and G B Stemen of Ft Wayne, Ind, secretary

New York State Medical Association—The Committee of Arrangements has secured a reduction in railroad fare from the Trunk Line Association, of one and one third fares for the round trip, to members of the association and their families visiting New York at the time of the meeting, October 18, 19 and 20, provided that 100 persons who pay full first class fare of 75 cents, or upward, coming to the meeting avail themselves of this privilege To make this reduction effective, certificates must be obtained from the ticket agent at the starting point, or nearest station issuing through tickets to place of meeting This certificate, to be valid for the reduction on the return fare, must be endorsed by the chairman of the Committee of Arrangements, and *vised* by a special agent of the Trunk Line Association, who will be present at the place of meeting for that purpose on October 19 and 20 The committee has also completed arrangements for a banquet at the Manhattan Hotel, Madison Avenue and Forty second Street, which will take place on the evening of October 19 F H Wiggin, M D, Chairman Committee of Arrangements

Wayne County Medical Society—At the regular meeting of this society, September 29, Dr D H O'Donnell read a paper on "The Physical Development of Girls" The Doctor treated the subject from the standpoint of the reformer He first enumerated the many defects of the body in womankind as it is today, making comparison of the average young woman in our cities with the strong, vigorous, well developed Venuses of olden time and laid the blame to such factors as fashion, ambition, giddiness of youth, faults in our schools and colleges, inattention and lack of interest on the parents' part, ignorance of laws of health, depravity of morals in young girls, ill fitting and useless clothing, fadism, etc The down trodden corset came in for its share of the rebuke which the Doctor administered to these evils He described it as the straight, stiff, well ribbed coat of mail worn by many women next the body and drawn recklessly close around the stomach and liver The Doctor described the ideal woman as the companion and equal of man, a creature of beauty, amiability and goodness, fully equal to the duties of maternity without undue pain or discomfort—the domestic goddess—at once a Venus and a Hebe The avenue to this lay through the efforts of the physician in his advice to the parents, giving them the most enlightning rules for the proper physical development of their girls and boys As heredity plays an important part in a girl's career, both her father and mother should be healthy and well developed, they should have no enervating or corrupting habits or surroundings, and the whole conduct of their lives should be well ordered and temperate An advance in this direction should be made all along the line by the medical advisers and family physicians Doctors should set the example by bringing up their own girls and boys with a rigid regard to their moral and physical well being, and nothing should be neglected to make the standard of true, pure womanhood the brightest and holiest thing on earth

NECROLOGY

Benjamin M Griffith, M D, St Louis (Mo) Medical College, 1859, died in Springfield, Ill, where he resided, September 24, aged 67 years He was a native of Shelby County, Ky, and a well known sanitarian, having served several years on the Illinois State Board of Health He was indentified with the American Medical Association and many other general medical societies His was a record of the greatest activity

George W Lindheim, M, D, assistant surgeon of the 8th N Y Volunteer Infantry, died at his home in New York City, September 16, of typhoid fever He was in charge of a hospital train which brought sick soldiers of his regiment from Chickamauga none of whom save Dr Lindheim himself have died up to the date of his funeral

Dietrich Nasse, M D, of Bergman's clinic at the Berlin University lost his life in the Alps by the giving away of a snow bridge, during the week ending September 17

John F Isom, M D, Western Reserve University, Cleveland, Ohio, 1877, and a resident of that city, died of cardiac disease, September 26, aged 67 years

Winthrop B Hallock, M D, Long Island Hospital College 1864, of Cromwell, Ct, died from apoplexy in a New York hotel, September 24, aged 65 years He left a wife and two children

John W Detwiller, M D University of Pennsylvania, 1873 died at Newport, R I, September 26 aged 47 years Until about two years ago he resided in Bethlehem Pa, and had been located in Newport only a few months His death was due to appendicitis a week after operation

Giovanni Trojani, M D, an assistant medical inspector of the Board of Health, Philadelphia, died September 26, aged [illegible] years Dr Trojani was graduated from the University of Naples, Italy, in 1881

F A Todd, M D, Toledo, Ohio, assistant superintendent of the Ohio State Hospital for Insane died at the Presbyterian

Hospital, Chicago, September 30, the result of a bite from a rabid dog He was 33 years of age

C D Manning, M D, Chicago, Rush Medical College, 1870, was killed while riding on a street car, September 24, in collision with a wagon Dr Manning was born in Dixon, Ill, in 1848

W E Fowlkes, M D, Owensboro, Ky, a graduate of the Louisville Medical College and also of Bellevue Hospital College, died at his home September 25, aged 50 years

J V Harmon, M D, Secretary of the Trumbull County Medical Society, died at his home in Warren, Ohio, September 18

M A Bacon, M D, Salem, Wis, September 24, aged 54 years ——Judson Brooking, M D, Athos, Va, September 20 ——John R Chappell, M D, Petersburg, Va, September 26, aged 70 years——Thomas R Clement, M D, Osterville, Mass, September 24, aged 75 years ——Julius W Cox, M D, Mapleton, Iowa, September 8, while on a hunting trip in Idaho —— J A Douglass, M D, Center Star, Ala, September 22 ——W P Griffiths, M D, Townanda, Pa, September 21, of rheumatism of the heart ——B N Herring, M D, Decatur, Ga, formerly of Clarksville, Tenn, September 19, aged 76 years —— Thomas Snodgrass, M D, Crossville, Tenn September 22, aged 76 years ——W H Sykes, M D, Plymouth, Ohio, September 20

MISCELLANY

Personal—Dr J C Minor, late surgeon, U S V, has resumed practice at Hot Springs, Ark

Correction—In the Journal for September 10, page 605, column one, in the title of Professor Landenzy's article, read "serum and toxin" for "serumated toxin", in column two, line 56, read "beef serum" for "beer serum"

Closing the Drug Stores on Sunday—The druggists of Bordeaux, France, have entered into an agreement to close all drug stores Sunday at noon, with the exception of one in each district The closed stores indicate the address of the one still open and the papers are also asked to give the address, without mentioning the proprietor's name The drug stores are to remain open in turn —*Bull de la Soc de Pharm de Bordeaux*, August

Tests for Standardizing Toxins—It is announced from Behring's Experimental Institute that animals react much more sensitively to intracerebral than to subcutaneous or intraperitoneal injections, and hence tests made with fluids introduced directly into the brain are much more delicate and reliable Guinea pigs will die from 1/60 of the usual fatal dose, and a tuberculous animal from 1/500 or 1/1000 —*Deutsche Med Woch*, September 15

Malaria Perniciosa Tetanica.—A Russian exchange reports a case Patient unconscious, rectal temperature 37 5 degrees C, reactionless dilated pupils, jaws clenched, muscle mass, like a board, and every group of muscles except those of the back and respiration in tonic contraction, spleen enlarged, heart and lungs normal As the patient came from Batum, where malarial infection is known to produce the strangest manifestations, he was treated with subcutaneous injections of quin bimuriat, carbamidat 2 0 in aq dest 4 10, which promptly cured him —*St Pet Med Woch*, September 4

Urine of Healthy Children—Churchill (*Archives of Pediatrics*, September) reports results in detail from an examination of 146 specimens taken from seventy children from 1 day to 12 years old His records show three points of interest the small amount of urine, the high percentage of urea, and the high specific gravity, i e, comparatively concentrated urine, and he raises a query as to whether the results represent a coincidence, or whether Americans do pass less urine in health and the probable later renal trouble from the constant irritation of the kidney

Duty of Person Bitten by Vicious Dog—Where a person was bitten by a vicious dog, through the alleged negligence of another person, from whom the former seeks to recover damages, the court of civil appeals of Texas holds, Trinity & Sabine Railway Company vs O'Brien, it became the duty of the person bitten to have taken such care of her wounds as a reasonably prudent person would have employed under like circumstances, and she can recover such damages only as she would have sustained if she had taken such care, and not for increased injury attributable to want thereof Negligence which allows damages to accumulate, the court continues, is not, like that which helps to cause the injury, a complete bar to recovery It simply prevents the recovery of damages which proper care would have averted

A Vegetarian Orphan Asylum—The late Professor Baron bequeathed to the city of Berlin money to found an orphan asylum, with the conditions that no physician was ever to be appointed on the Board, and vegetarian principles were to be strictly observed The mayor accepted the bequest, but the city council, which includes Virchow, Furbringer Fraenkel, Strassmann, and Renvers, has interfered, and the legacy will probably be declined, as the city authorities are unwilling to accept a bequest which compels them to submit orphan children to the experiment of a vegetarian diet

Operations for Goiter at Berne—Kocher's method is described in detail in the *Rev de Chir*, No 4 It never leads to hemorrhage, avoids injuring any nerve, and retains a portion of sound thyroid tissue, while the cosmetic results are fine and the wound heals by primary union without relapses The 204 operations described include 159 thyroidectomies, 12 enucleations, 19 resections, 16 enucleations and resections, and 2 ligatures of the large thyroid arteries Kocher only enucleates unilocular goiter cysts, easily shelled out nodules, or large nodules in immovable goiters, while he performs thyroidectomy in all other cases, including those of acute and chronic strumitis, and considers exothyropexy only justified when the operation has to be performed without the necessary instruments He has obtained good results in morbus Basedowii by ligating the third thyroid artery, followed later by ligature of the fourth

The Eyesight in the Open Air—Prof H Cohn asserts that examinations of the eyes in doors is no test of their actual capacity, and that all examinations of the eyes of school children, etc, should be made out of doors, as otherwise there can be no true standards He states that the superior visual acuity of Indians and other savages, is due to the necessity of concentrating their attention on objects on which their food and safety depend, and proves his assertions by statistics—many new and personal—which demonstrate that the *out of door* eyesight of civilized peoples averages as high as that of the uncivilized He concludes that any one can make his eyesight equal to that of a savage by concentrating his attention sufficiently He adds a plea for more out of door life for children, even at the expense of their studies, and training in closer observation —*Revue Gen d'Ophthalmologie*, August 31

Fibrils in the Nerve Cell—Golgi's latest preparations, exhibited before the Societa Med Chir of Pavia, showed clearly the delicate fibrillary arrangement and network in the Perkinje cells of the cerebellum and of other groups of ganglion cells of the central nervous system The fibrils are very distinct toward the periphery of the cell, but grow smaller toward the interior, and after a perceptible enlargement they penetrate into and blend with the innermost strata of the body of the cell The fibrillary apparatus differs with the age of the animal (cats, rabbits, dogs, horned animals and pigs) In the new born this fibrillary apparatus is much less complicated, the network much less evident In the adult animal the fibrils are more delicate, the network more distinct, the nodular enlargements more pronounced and the apparatus as a whole encroaches more upon the body of the cell. Golgi's report enhances the interest of Ewing's and Nissl's communications (JOURNAL, pages 131 and 674).—*Gazzetta degli Osp. e delle Clin.*, August 14.

Cæsarian Operations.—The number of these operations is increasing as asepsis enables the indications to be extended. Leopold and Haake report 100 in the *Arch. f. Gyn.* (lvi, 1), with 10 deaths, all very difficult and desperate cases. The conservative Cæsarian operation was performed 71 times, all the children taken alive, but two died later from the results of the operation, the Porro 29 times with two dead fetuses. They consider a conjugata vera less than 6 cm. an absolute indication for the Cæsarian operation, and amputate the uterus when the patient is debilitated by a serious disease, when there is reason to suppose it is infected, and when there is complete inertia or insufficient pains. Gonorrheal infection, a malignant tumor or ruptured uterus render the conservative operation impossible.

Ambulance Legislation.—Every now and then the ambulance surgeon gets his bitter dose of rebuke in the police court or in the newspaper. He is sometimes at fault, but more often he is the scape goat. In New York State, some wiseacre legislator has had a law enacted that is designed to deprive the ambulance surgeon of all discretionary power in the removal of the alleged sick or injured person. The law was passed in 1896, but it has not been generally known or enforced. A legal officer of that city is reported to have said that, in his opinion, need exists for such legislation and that the act "to insure prompt medical treatment for the sick or injured" is a most beneficent one, and should receive the cordial co operation of all our citizens. This law makes it a misdemeanor for any person in charge of an ambulance, hospital or house or place of reception for the sick or injured, which shall be wholly or partly supported at the public expense, to refuse to answer to a call or demand for an ambulance, or to take the person for whom the call may be made to the hospital or place of reception for the sick or injured from which the ambulance came, for examination and treatment by the house authorities of the hospital or place of reception. The act applies to the drivers of ambulances as well as to the physicians, and the penalty for its infringement is a fine not to exceed $500 or imprisonment for not more than one yaar, or both fine and imprisonment. If the act is enforced (it will probably not be) the various city institutions will have a very arduous duty procuring competent officers to operate their "little wards on wheels."

The Abuse of Alcohol.—Prof. Krapelin described the results of his recent research in regard to the effect of alcohol, at the annual meeting of the German Society against the abuse of alcohol. His conclusions explain the peculiar phenomenon noted by Exner in 1773, that when a person under the influence of alcohol is ordered to perform a certain movement, determined beforehand, following a certain external stimulus, he thinks that he performs it easily and promptly, while scientific measurement of the time elapsing between the stimulus and the movement proves a considerable delay in the response. Krapelin finds: 1, that the perception of impressions received by the senses is much retarded by the influence of alcohol, even a small amount, ¼–½ liter beer, will suffice for this. 2, the combination of ideas is much slower, processes of thought are altered, speech becomes more and more prominent, "thought spreads out in a level," 3, the voluntary movements occur much more easily and rapidly. This explains the contradiction between the objective record and the subjective impression in Exner's tests, the movement occurred more readily and rapidly, but time had elapsed before the stimulus was perceived. Observation in everyday life shows the correctness of these scientific data. The effect of alcohol on the psyche lasts more than twenty four hours, often several days. Leixner accused the medical profession of the responsibility for the spread of the use of alcohol, and others observed that there is more adulteration and fraud in the so called tonics and invigorating alcoholic beverages sold than in any other class of goods. Much amusement was caused by the arraignment of several members of the Congress for having imbibed a few "tenths" of beer with their lunch, which led to a clearer statement of the purpose of the Congress: to combat the *abuse* of alcoholic drinks, although Krapelin's research has converted him to "total abstinence."—From report in *Deutsche Med. Woch.*, September 15.

Medicine now in Disrepute.—An editorial of the *American Medico Surgical Bulletin*, Sept. 25, 1898, is justly caustic on certain usages of the times. The reflections upon "the yellow journals and their willing medical tools," are to the point, and the medico political critic, virtuously indignant for a purpose, shares deservedly in the animadversions. There are many hints of loose charges for the sake of a notice through the daily press and some looks askance at sensation mongers, but as no remedy is proposed, the profession at large must take its chances of survival. "Before the present war," says the writer "the newspapers were filled with glowing reports of the wonderful things medical science is capable of doing. Exaggerated accounts of our prowess were copied from journal to journal and the hospital surgeons and dispensary doctors were eulogized in glowing headlines, surmounted by their photographs. Now we are all in for condemnation, whether we had anything to do with the army or were mere stay at homes." *Sic transit gloria mundi.*

Can Exhibit Actual Condition.—Although it pronounces it an irregularity, the supreme court of Wisconsin holds, in the recent personal injury case of Selleck vs. the City of Janesville, that it was not reversible error for the judge and jury, the latter in charge of the sheriff, to go to the plaintiff's house, a distance of more than fifteen miles from the county seat, so that the plaintiff, who was carried into their presence upon a lounge and was administered to by her physician, could be sworn and testify as a witness in her own behalf. Following this up, the supreme court says that it perceives no error in allowing the plaintiff to exhibit her actual condition to the jury, nor in allowing her daughter to weep. It also holds that the following charge is supported by authority as well as reason: "The plaintiff is not held responsible for the errors or mistakes of a physician or surgeon in treating an injury received by a defect in the street or sidewalk, providing she exercises ordinary care in procuring the services of such physician. Where one is injured by the negligence of another, or by negligence of a town or city, if her damages have not been increased by her own subsequent want of ordinary care she will be entitled to recover in consequence of wrong done, and the full extent of damage, although the physician that she employed omitted to employ the remedies most approved in similar cases, and by reason thereof the damage of the injured party was not diminished as much as it otherwise should have been." The wrongdoer, the supreme court says, may well anticipate that the person injured will employ a physician or surgeon, and in doing so will exercise ordinary care in making the selection, but, where that is done, such person can not be expected to assume the responsibility of the very highest degree of skill. Indeed, it calls attention to the fact that it has gone so far as to hold that where personal injuries result proximately from negligence or other tort the wrongdoer is liable for the damages actually sustained although they are increased by a tendency to disease on the part of the person injured.

Effect of Altitude on Anemia.—According to the *British Medical Journal* Paul Bert as early as 1882 called attention to the fact that the blood of an animal on a mountain absorbs more oxygen than under lower conditions. Mercier and others ha found that while counting the corpuscles of men and rabbits returned from the mountains to the plains, the daily decrease ceased on the thermometer falling 13 mm., and in two rabbits there was even an increase of corpuscles. Whether on a mountain or under a bell jar, the most noticeable alteration in the blood is an increase of the red corpuscles, which appears earlier and is more rapid than the increase of hemoglobin. Egger has had the same results in man at an elevation of 1890 meters; the average increase of red corpuscles after fifteen days was 16 per cent. Mercier confirms this. Those observers (Loewy and Kohlbrugge) who have failed to note this property of mountain air were not careful to exclude vitiating conditions from their experiments. All the most reliable evidence goes to show that the increase of red corpuscles is real, and has nothing to do with a supposed concentration of the serum through evaporation. Viault and others have remarked the great number of small discs in blood received on elevated places, which are probably developing erthrocytes. This explains the fact that hemoglobin does not increase so rapidly as the corpuscles, since the young globules do not contain their full amount. Finally Schauman and Rosenquist have observed nucleated red corpuscles in the blood of dogs and rabbits living for some weeks under a bell jar under a depression of 45 to 48 cm. of mercury. Suter and Jaquet found that in rabbits which had lived at Davor for four weeks not only was their blood one sixth richer in hemoglobin than that of those left behind at Basle, but the quantity was more per kilogram of body weight (about one tenth). The mechanism of the increase of red corpuscles is still not properly understood. It is certain that in healthy persons the increase is not permanent, but disappears on a return to the plains as rapidly as it came. However, the most important fact is that anemic people retain more red corpuscles than they had before their mountain sojourn for long after their return.

Creasote in Gastric Affections.—According to Zanger of Zurich, in a paper on creasote, contributed to the *Correspondenzblatt für Schweizerische Aerzte*, the present tendency to think that the larger the dose of this drug the better in phthisical cases, is by no means justified by experience, for the best results are often obtained with very small doses indeed. He believes that their beneficial effect is due to their action on the stomach, causing it to do its work better, and so to improve the nourishment of the system. He finds that in many cases of purely gastric affections, with or without diarrhea, or other intestinal symptoms, minute doses of creasote will often succeed when other remedies have failed. In the gastroenteritis of children and in the vomiting of pregnancy, he has been greatly struck with its effects. The doses he gives vary from 1/11 gr. in children to 1/3 gr. in adults. He prescribes it with enough spirit to dissolve it in a spoonful of water, with or without water. Black coffee or mint tea may be employed, if necessary, to disguise the taste. When infantile diarrhea exists, without vomiting, he has often found creasote valuable. In the milder forms of the vomiting of pregnancy small doses of creasote have always produced an improvement, and he thinks that even in severe cases a trial of the same treatment should be made.—*Public Health*, August.

Syphilis and Divorce.—There are two recent decisions on this subject that should be noted. In the case of Smith vs. Smith, the supreme judicial court of Massachusetts holds, that where a wife ascertains, within a short time after the performance of the marriage ceremony, and before the consummation of the marriage, that her husband has syphilis, which has advanced to such a stage as to be probably incurable, whether he acquired it through unchastity or has become constitutionally affected with the disease from his birth, she is entitled after refusing to consummate the marriage, to have it annulled. Few, if any, says the court, would be bold enough to say that it was her duty, on discovery of the fraud, before consummation of the marriage, to give herself up as a sacrifice, and to become a party to the transmission of such a disease to her posterity. There are reasons why a fraud of this character, discovered before the consummation of the marriage, and at once made a ground for separation, should move the court more strongly in favor of the wife than if the discovery had come later. And the court takes particular pains to state that it does not intimate that the concealed existence of venereal disease in one of the parties to a marriage will ordinarily be a sufficient ground for a decree of nullity. In most cases, presumably, it significantly remarks, the disease is curable. The other decision referred to is one of the supreme court of Pennsylvania, rendered July 21, 1898, in the case of McMahen vs. McMahen. Here was a case of a young woman, whose innocence was not at all impeached, having been infected with syphilis by her lover (who subsequently became her husband) during the period of his courtship, probably by kissing her frequently, and after marriage having been kept constantly in a diseased condition from the same source, until she had passed into the secondary condition of the disease, and had approached on the tertiary stage thereof, having endured for upward of five years the constant presence of one of the vilest, most shocking and dangerous diseases with which the human body can be afflicted. Is such a person legally bound to remain in such relation with her husband during the whole of her subsequent life, and has she no redress whatever, in the way of divorce? asks the court. But it says that, in its opinion, to state this question is to answer it. It says that it does not see how it is possible to imagine a more direct and palpable case of cruelty to a wife by her husband than this, and that it comes within, not only the spirit, but the very letter of the Pennsylvania statute which allows divorce "when any husband shall have by cruel and barbarous treatment endangered his wife's life, or offered such indignities to her person as to render her condition intolerable and life burdensome, and thereby force her to withdraw from his house and family." It is of no consequence, continues this court, that inoculation occurred before marriage. It is the continuation and constant presence of the disease after marriage, making her condition intolerable, and endangering her health and life, that entitles her to a divorce.

A Child can not Maintain an Action for Injuries Sustained Before its Birth.—The appellate court of Illinois, first district, holds on appeal in the case of Allaire vs. the St. Luke's Hospital, May 26, 1898, that the action not being given by any statute, a child can not maintain one, by the common law, for injuries sustained before its birth. That a child before its birth is, in fact, a part of the mother, and is only severed from her at birth, can not, the court thinks, be successfully disputed. The doctrine of civil law and the ecclesiastic and admiralty courts, that an unborn child may be regarded as in being for some purposes, when for its benefit, the court pronounces a mere legal fiction, which, so far as it has been able to discover, has not been indulged in by the courts of the common law to the extent of allowing an action by an infant for injuries sustained before its birth. If the action could be maintained, it would necessarily follow that an infant might maintain an action against its own mother for injuries occasioned by the neglect of the mother while pregnant with it. Mr. Justice Windes dissents. He argues that if the willful and malicious conduct of a person causing an injury to an unborn child resulting in its death after it has been born alive, will fasten on the person the crime of murder or manslaughter, there seems no sound and logical reason, since the crime includes the injury to the child, and since the public offense is also a private and special wrong to the helpless infant, why, if the child should be so fortunate as to survive the injury, which, had it caused death after being born alive, would have made the wrong doer a criminal before the law, the child should not have his action at law against this same wrong doer, for damages because of his tort Could it be successfully contended that for an injury to Chang, one of the famous Siamese twins, he could not maintain an action because he was a part of his brother Eng—that he was not a separate entity? Could it be contended that in such a case Eng was the person to bring the suit, because the injury to his brother Chang was an injury to him, Eng? The judge thinks it quite as reasonable to say that the mother can recover for injuries to her living moving child because contained in her womb or lying beside her after its birth, attached by the umbilical cord as to say that in the case of an injury to one of the Siamese twins, the other could have brought suit The child, when capable of being born alive, is in the judge's opinion, a distinct entity, under the common law, and although no distinct civil case, so far as he knows, has so held, humanity and enlightened civilization, he insists, demand that the common law as administered in Illinois in the 19th century should so declare What will a still higher tribunal say if called on for a decision on this point?

Behring's American Patent on Antitoxin—The *Munich Medicinische Wochenschrift* of September 6, contains the following editorial "Professor Behring of Marburg has at last, after a number of ineffectual attempts, succeeded in obtaining a patent in the United States for the production of diphtheria serum The patenting of a scientific discovery by a physician contradicts to such an extent the cherished traditions of the medical profession that it is not surprising that Professor Behring has been assailed with violent criticisms on account of this patent He replies to these criticisms in the following explanatory letter which has appeared in a Marburg paper 'It is true that a patent has been granted me in America for the production of diphtheria serum, and it is true that the American firms who have hitherto been commercially benefitting by the production of diphtheria serum are angry about it When the Americans interested express their anger in the American way, that is their own concern, but when in this case, entirely contrary to their usual customs, they declare that to take advantage of existing laws to exploit an important practical discovery, is immoral and scandalous, I can not accept their verdict seriously For my part, I do not consider a legitimate means of making money dishonorable I might even go so far as to say that I consider the renunciation of a considerable pecuniary profit, legitimately one's own, unpardonable folly Time will show whether the American courts will be coerced by this newspaper clamor into interfering If this, as I confidently anticipate, does not occur, then the American public will derive much benefit from the patent, as they will then secure the diphtheria serum better and cheaper The denial of my right of invention and discovery is based on ignorance and injustice Ask any one of the scientists whose names are mentioned as having co operated with me in the discovery of diphtheria serum, not one of them will wish to contest the priority with me' This explanation can only arouse the most painful sentiments in medical readers The last statement is correct To Behring alone belongs the honor of the glorious discovery of diphtheria serum But the gratitude which the world, and especially the medical profession, owe him for this discovery should not induce us to accept in silence such principles as are enounced in the foregoing explanation It is not true that every way of making money which does not conflict with the laws, is honorable for the physician It would be the severest blow to the prestige of the medical profession if these principles, which sound like a sneer at the efforts of physicians to raise themselves above the level of the trades, should be accepted As far as the patenting of a remedy is concerned, the German patent laws do not allow it, even the diphtheria serum is not protected in Germany This restriction does not seem to exist in America, altho [illegible] Code of Medical Ethics, endorsed by the better A physicians, declares that it is 'derogatory to professional character to hold a patent for any surgical instrument or medicine [illegible] inconsistent with beneficence and professional liberality' The American, as well as the English professional press, regard Behring's application for a patent as a breach of the ethical foundations of the medical profession, and criticise it in the severest terms, which we must regret all the more as we can not consider them unjustified "

Behring disclaims that he is still a physician In a letter to the *Deutsche Med Woch* of September 15 he remarks "I gave up my professional practice when I entered upon my career as an experimenter and inventor, and I am compelled to seek means in a commercial way to carry on my experimental therapeutic work "

Nerve Fatigue of School Children—Dr R C Scheidt, of the Franklin and Marshall College, presented a voluminous address (*Public Health*, July) on the hygiene of school attendance, before the fifth annual meeting of the Associated Sanitary Authorities of Pennsylvania (*vide* JOURNAL June 18, 1898, p 1469), in which he urged an ampler protection of the health of the overworked children of the public schools He argues against the afternoon session as being unnecessary confinement, if the pupils have a long and properly arranged morning session The following are some of his conclusions 1 I am convinced that the esthesiometer is the proper instrument for the measurement of fatigue 2 My tentative experiments with American boys prove a superior normal strength of their mental vigor under favorable conditions of the atmosphere 3 Unfavorable conditions of the atmosphere show an unusually large percentage of abnormal fatigue of the nervous system 4 I attribute this condition to the utter lack of systematic open air exercises 5 I advocate such exercises for children as a prime necessity, because the foundations of a healthy and useful life are laid between the seventh and fifteenth years, but never afterward 6 Training of all the functions of the physical organism should precede instruction, because it will develop the necessary mental strength 7 Children should be classified according to their individual characteristics, and stress should be laid upon the development of their weakest organs, in such a way, however, as to leave plenty of room for individualization 8 Such exercise should take place every afternoon, and should be continued until the limit of normal fatigue is reached 9 The exercises should be grouped into muscular, cutaneous and respiratory 10 All these exercises should be essentially exercises of the nervous system, to lead to a proper development of character The writer holds that it is not learning, primarily, but health and character should be the watchward of our schools first training, then instruction, the sequence of a rational educational policy Pedagogics, as a science, should therefore no longer be based upon philosophy, but upon physiology and hygiene The chief factor in every school board should be the well trained physician and the physician only His investigations, carried on for a number of years, have led him to the firm conviction that the American boy is the superior of the boy of any other nation on the face of the globe, he is worthy of special considerations because his training will in the end produce the superior man, for only during the years of boyhood, from the seventh to the fourteenth, fifteenth and sixteenth year, can training be made successful, if neglected then it will forever remain neglected Considering the large number of heterogeneous branches now taught in our public schools, and, at the same time, the intense interest in all sorts of ill directed physical exercises manifested by both girls and boys we conclude that the endurance for every specific activity can be but small, while the sum total of all the energies consumed is rather larger than in former ages, however, the mere [illegible] exhibition of ability is, in the case of children, [illegible] the absolute criterion for the sum total of l [illegible] hu [illegible] while in the process of growth, while digestion is going on Under unfavorable external conditions, abnormal fatigue will prevail throughout the whole afternoon, and in the course of time the brain will become unfit for mental work Afternoon instruction is therefore absolutely unhygienic Teachers are unanimous in pronouncing afternoon mental work a failure in the majority of cases One long morning session, with a number of recesses, ought to suffice Let that instruction be rational, let it largely be object teaching, do not overfeed children with grammar, which presupposes mastery of speech and the power of developed thought The brain cells required for such work are as yet but imperfectly developed, and the natural result is a mechanical memorizing resembling the training of a parrot How different the effect of the introduction of the various mechanical arts They appeal at once to the various organs of sense, and through them to the intellect Large playgrounds should be provided in every city, and every school house should be joined by a large roof covered area, equipped with the most important apparatus necessary for physical training, for both summer and winter The authorities ought to see to it as much as possible that each child is given the opportunity to develop its individual inclinations, for in the nature of the case, and necessarily so, class room work has a levelling tendency, its laws are those of a liberal sometimes even of an illiberal, despotism, a child becomes one of a dozen, and nothing more, and the only virtue practiced is that of obedience, which it should have acquired at home On the play ground the development of individuality ought to be given a chance, but always under the control of the wiser parent or teacher

Detroit

HEALTH REPORT for week ending September 30 Deaths, under 5 years, 36, births, male 33, female 32, diphtheria, 5 cases, 12 new cases, 4 recovered, 1 dead, 12 sick now, scarlet fever, 4 cases, 7 new cases, no recoveries, no deaths, 11 sick now, smallpox, 2 sick, 5 new cases, no recoveries, 7 sick now

Cincinnati

DR P S CONNER, of this city, has been appointed to the commission for the investigation of the war department Dr Conner was born in West Chester, Pa, in 1839, served with distinction as an assistant surgeon in the War of the Rebellion, but did not retire from service until 1866 Since leaving the Army he has practiced in Cincinnati He has been president of the American Surgical Association, the Ohio State Society, the Cincinnati Academy of Medicine, is Professor of Surgery in the Ohio Medical College and in the Dartmouth Medical College, and also surgeon to the Good Samaritan Hospital and, until a few years ago, to the Cincinnati Hospital

Louisville

HEALTH OFFICE —In the forthcoming annual report the Health Officer, Dr M K Allen, will urge the following recommendations A milk and food inspector, the establishment of public urinals, the establishment of public baths for the use of the poor, the setting apart of a hospital for the care of consumptives, the establishment of a detention ward at the City Hospital for persons suspected of being insane, and for the surgical treatment of patients from the work house and alms house, the furnishing of diphtheria antitoxin to the poor by the city, requiring all physicians to report the following diseases to the Health office, not to be placarded consumption, typhoid fever and whooping cough, and the placing along the thoroughfares baskets or boxes to be used as receptacles for waste paper, fruit peelings, etc

BOARD OF PHARMACY —Governor Bradley has appointed Mr Addison Dimmit a member of the State Board of Pharmacy, to succeed Dr J W Fowler, whose term had expired Mr Dimmit is a member of the firm of Geo A Newman & Co, whole sale and retail druggists of this city

MATHEWS —Dr J M Mathews has just returned from an extended trip east, having been in attendance upon the American Association of Obstetricians and Gynecologists at its recent meeting in Pittsburg

MORTALITY REPORT —The mortality report for the month of September shows a total of 230 deaths against 262 for the same month last year Consumption caused thirty eight deaths, typhoid fever eleven, old age thirteen Only sixty of the deaths were colored people

GILLETTE —Miss Nellie Gillette, who for five years has been the efficient Superintendent of the John N Norton Memorial Infirmary and Training School, has left for her home in New York on a year's leave of absence on account of ill health She will return at the end of that time to resume her duties A class of four will graduate this month from the Training School

Washington

HEALTH OF THE DISTRICT —The report of the Health Officer for the week ended September 24, shows the total number of deaths to have been 104, of which 52 were white and 52 colored The principal causes of death were nervous diseases, 12, circulatory, 8, genito urinary, 5, respiratory, 16, intestinal, 11 There were five deaths from typhoid, 7 from diphtheria and 3 from malaria There were 79 cases of diphtheria and 57 cases of scarlet fever under treatment at the close of the week There are no cases of smallpox in the city at present, the last case having been discharged from the isolation hospital on the 15th ult

HEALTH OFFICER AFTER FREEDMAN'S HOSPITAL —Health Officer Woodward has called upon the surgeon of the Freedman's Hospital for an explanation of the fact that the contagious disease regulations are being repeatedly violated by that hospital, in not properly caring for and reporting contagious diseases to the Health Office Dr Woodward has appealed to the Interior Department in order to secure its co operation in checking the reported violations If Congress would abolish the "political plum feature" of this hospital and place the control of the institution under the District Commissioners, where it rightly belongs, the existing friction would be promptly removed

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL —The annual report of the Central Dispensary and Emergency Hospital for the year ended June 30, 1898, shows the total number of new patients treated was 11,927, making 35,333 visits, of this number 7722 patients were treated in the Dispensary and 4205 in the Emergency Department There were 2120 operations performed, 308 patients committed to the wards, 579 ambulance calls, 36,196 prescriptions compounded and 41 deaths Dr Burnett, the President of the Attending Staff, calls attention to the necessity for more room for the treatment of patients, and notes that there was a slight falling off of new patients in the dispensary during the year, due to the rigid enforcement by the hospital authorities of the rule of the Medical Association, requiring applicants for treatment to present a certificate of dependency before being admitted to the different services He also calls attention to the munificent gifts of Mrs Phebe A Hurst Last year she presented the hospital with a very valuable X ray apparatus, and this year she has presented a large plat of ground and house for the nurses of the hospital The work of the Ladies' Auxiliary Board, in improving the operating rooms of the hospital is highly commended, and the excellent work of the resident physicians specially noted The superintendent, Miss Simonton, reports that the training school, which has been started in conjunction with the Washington Asylum, the Washington Training School for Nurses and this hospital, is being conducted very satisfactorily, and a large number of pupil nurses have been admitted The treasurer's report shows the total receipts to have been $17,531 65, and the total expenses to have been $17,528 55, with a balance of $3 10

PHYSICIAN TO THE POOR APPOINTED —Dr James R Tuban, the faithful substitute physician to the poor, has been pro moted to fill the vacancy caused by the resignation of Dr J D Bradfield, physician to the eighth district

Army Appointments —Drs Edmund Barrie and Samuel N Hannon have been appointed acting assistant-surgeons in the Army The former leaves to take charge of the Red Cross Hospital at Camp Mead, the latter goes to Santiago de Cuba for special detail

Visited Washington —Dr Joseph M Matthews, President of the American Medical Association, and Dr I N Love of St Louis, made a flying visit to Washington on the 30th ult

Philadelphia

Another Infected Schoolhouse —A serious epidemic threatens the district of Paschalville, where thirteen cases of diphtheria have recently occurred, eleven of which can be traced to the John Bartram school An investigation of the throats of several children who had been ailing for a few days showed the presence of the specific germ In one instance in which several children from one family were suffering with diphtheria, it was found that there had been no physician in attendance, and on further inquiry it was learned that the family were Christian scientists It is stated that Dr Taylor of the Bureau of Health detailed a corps of medical inspectors to make a thorough investigation of the suspicious cases occurring in the district and report same to the proper authorities, and institute quarantine where necessary The schoolhouse has been thoroughly cleansed and fumigated

Appeal for Funds —Owing to the heavy drain necessarily entailed in bringing to this city and caring for a thousand sick soldiers, the National Relief Society of Philadelphia has made an urgent public appeal for funds in order to carry on its work It is not all to simply care for the soldiers while they remain in the hospitals, but the heaviest burdens will fall upon the families of those who have been discharged from the hospitals in shattered health and without any permanent employment It is stated that in some instances of this character, a few poor unfortunates have actually had to pawn their clothing before employment was found Mr George C Thomas, treasurer of the National Relief Commission, acknowledges the following contributions Cash previously acknowledged, $66,627 32, other contributions and supplies, $40,265 The Red Cross Society of Philadelphia has been very active in the relief of the sick soldiers, and up to date $14,888 14 has been received, which will go to those who most need support while seeking for permanent employment The hospitals of the city also receive contributions to be expended in this manner, and by the co operation of all channels it is hoped that every unfortunate patient brought here may be cared for and his wants attended to

University of Pennsylvania —Several familiar faces were missed at the opening exercises, and a touching tribute was paid to Dr William Pepper by Provost Harrison, who recited the wonderful advances made by the University under his direct guidance The venerable master of surgery, Dr John Ashhurst, was referred to with the heartfelt hope of his early recovery The University begins the session with much greater facilities for teaching, such as new laboratories, etc The lengthened course has not prevented an increase of numbers over the period when only a three years' course was required, and there are now more students enrolled up to the present time than there were last year

Personal Mention —Dr William White, professor of clinical surgery in the University of Pennsylvania, who has been spending the summer in Europe, has returned home to resume practice and clinical teaching at the University

Dr Benjamin Lee, Health Officer of Philadelphia who has been in attendance at the twenty sixth annual meeting of the American Public Health Association, has returned It is reported that at this meeting a resolution was passed favoring the appointment of a committee to secure the co operation of the United States, Canada, Mexico, and as far as possible the countries of Europe, to adopt the Bertillon system for the classification of diseases, on account of the inaccuracies of the other systems now in vogue Pennsylvania adopted the Bertillon system at the last meeting of the State Board of Health, and it is hoped that its results will prove both convenient and useful

Surgeon General W K Van Reypen, U S N, has recently made a thorough inspection of the naval hospital situated at this point, and pronounces the condition of things eminently satisfactory

Faculty Changes —Since the death of Dr William Pepper professor of the theory and practice of medicine at the University of Pennsylvania, there has been much speculation as to his successor Nothing was known of the action which the Board of Trustees might take toward choosing his successor, and while the Board recently placed Dr James Tyson in this coveted chair, it seems that this action is not entirely final, and Dr Tyson will only be the nominal head of that department, while the didactic lectures will be given by several capable teachers of the faculty The University has always conformed to the civil service reform by promoting those it has brought up into the places made vacant by the death of one of its members Dr Tyson will have full supervision over the branch of general medicine, both didactic and clinical, while Dr John H Musser, Dr Alfred Stengel, Dr M Howard Fussell and Dr Frederick A Packard will give didactic lectures to members of the graduating class The names of Dr Judson Daland and Dr John K Mitchell were also mentioned for this honor, but as they both now hold chairs in the teaching faculty, it was thought best not to make any changes in their departments Owing to the unfortunate illness of Dr John Ashhurst, his chair remains unfilled and will probably remain so during the coming term In the meantime, Dr J William White will be the nominal head with full supervision over the department, while Dr H R Wharton and Dr A C Wood will give some of the didactic lectures until final action is taken by the Board of Trustees

Ayer Laboratory —The foundation of the Ayer Laboratory has been laid and the building is now assuming definite proportions The building was given to the Pennsylvania Hospital by Mrs Josephine Ayer of Lowell, Mass, who left a legacy of $50,000 to the hospital for the erection of this building The material used will be red brick with gray granite, but the style of architecture of the simplest kind, with Doric pilasters and symmetric arrangement of the windows so as to maintain as much as possible the old colonial tastes The basement will be utilized as a museum, the first floor for autopsies and a mortuary chapel, the second floor for bacteriologic and chemic studies, and the attic for scientific photography The building will have an endowment of $25,000, so that the work in the different departments will never become embarrassed from the lack of funds

Woman's Medical College.—At the opening session of the Woman's Medical College of Philadelphia, Dr Gertrude Walker delivered an address dealing with the influences in and around the medical profession and pointing out to the students the evils to be avoided and urging a high preparatory course before beginning the pursuit of medicine In the opinion of the speaker a large proportion of the ills of humanity were due to hysteria, and from this source Christian scientists gained a foothold upon the community The speaker also warned the students against all forms of quackery and associations of "pathists" of every school A four years course has been instituted at this college

Another Wail from Homeopaths —From the recent meeting of the homeopaths of Pennsylvania, recently held in Pittsburg, comes a complaint of the unfair treatment accorded the Hahnemann by the innumerable officials of Philadelphia over the distribution of soldiers who were brought to the city for treatment, and it was thought the Hahnemann did not have a fair chance to get at them Dr Mohr is reported as saying "When the first train left Philadelphia to bring the sick soldiers from the South, we made application to the Director of Public Safety and other officials in the city, but although we stated that we could care for twenty five cases, we received only *one* When the second train left we still gave them the option of sending twenty five cases, but we received only "one" Fortunately, however, for us as a school and a hospital, we had placed *ourselves in communication with the* —— and from his representative in Philadelphia an aggregate of sixty two soldiers were received "

PRESIDENT OF WISTAR INSTITUTE —At a recent meeting of the Board of Trustees of the Wistar Institute of Anatomy and Biology, Provost Charles C Harrison of the University of Pennsylvania was elected president to succeed the late Dr William Pepper The Wistar Institute of Anatomy, while its work is, not fully comprehended, being for post graduate students only, will some day take first rank with any institution of its kind in America, for its endowment and large collection of anatomic specimens could hardly be duplicated on this side of the Atlantic The institution is governed by a board of managers, six of whom are elected by the trustees of the University

WOMAN'S HEALTH PROTECTIVE ASSOCIATION —This Association, which has taken such a prominent part in the crusade against the filthy Schuylkill water and is instrumental in bringing about reforms in hygiene among the poorer classes, recently had its first fall meeting The president, Mrs John Scribner, delivered an address outlining the work for the coming months, and stated that the principal subjects which would receive attention would be contagious diseases, meat, milk the schoolhouse question and the "consumptive poor "

SHAIN SCHOLARSHIP —As a result of a competitive examination held recently, Robert Sawford Scott was awarded the Shain scholarship in the Jefferson Medical College This scholarship was established from the legacy of Dr Francis W Shain, who bequeathed $4000 for this express purpose The scholarship entitles the recipient to a four years' course in the Jefferson Medical College, and as the examination is a rigid one makes the honor the greater

Societies

The following recent meetings are noted

Iowa —Northwestern Medical Association, Sac City, September 21

Maryland —Baltimore County Medical Association, Baltimore, September 22

Michigan —Kalamazoo Academy of Medicine, September 27

Missouri —St Louis Medical Society of Missouri, October 1, Medical Society of City Hospital Alumni, September 15

New York —Medical Society of the County of New York, New York, September 26, Syracuse Academy of Medicine, September 20

Ohio —Delaware County Medical Society, Delaware, Oct 4

Pennsylvania —Susquehanna County Medical Society, New Milford, October 4, Venango County Medical Society, Franklin, September 20

Tennessee —East Tennessee Medical Society, Newport, September 22

Texas —Houston District Medical Association, Sept 26

Wisconsin —Central Wisconsin Medical Society, La Crosse, September 27

American Public Health Association —This Association elected the following officers at the recent meeting President, George H Rohé of Baltimore, secretary, C O Probst of Columbus, Ohio, treasurer, Henry D Holton of Brattleboro, Vt, executive committee, Prof F C Robinson of Brunswick, Me, Irving H Watson of Concord, N H, Frank W Wright of New Haven Conn, and others The Association will meet in Annapolis in November, 1899 An abstract of the proceedings will appear in the JOURNAL, beginning next week

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CHANGE OF ADDRESS

Adams S S from Mt Lake Park, Md, to No 1 Dupont Circle Washington D C
Butterworth, A from Chicago View Hotel to Central Music Hall, Chicago
Braun O from Ashland to Merrill Wis
Boyer J S, from Chicago Ill, to Marganna Va
Butler, W J from 670 Grand Av to 1361 Jackson Boul, Chicago
Cassidy, W W, from Wabasha, Minn to 740 Jackson Boul Chicago
Carson C J, from Mortimer, Ill to 204 S Lincoln St Chicago
Danielson C A, from Omaha to 320 Jackson Boul, Chicago
Downey W S from 92[illegible] W [illegible]6th to 4501 Wallace St, Chicago
Evans E E, from Sumner to Stephen's Store Mo
Felix, T O, from St Louis, Mo, to Downs Kas
Finley, G W, from Harmony to Brazil Ind
Gallen, G E from Calumet, Mich, to 71[illegible] W Harrison St Chicago
Honan J H, from Rensselaer, Ind to 78 Lützow Strasse Berlin Ger
Hoyt, F C, from Clarinda Iowa to 5337 Madison Av Chicago
Jones Mrs S B, from Rahway to 67 Monticello Av Jersey City N J
Jones, W D, from Devil's Lake N D, to Rising City Neb
Ketchersid, J N, from Abilene to Hope Kas
Lowellen W P, from Clarinda to Brookfield Iowa
Miller, W, from Thurman to Rio Grande Ohio
Musson E E from 1206 Locust to 2[illegible]8 S 16th St Philadelphia, Pa
Pomeroy H M from San Diego to Los Angeles, Cal
Runkel W W from Johnson's Creek to 2324 Violet St, Milwaukee Wis
Reese, L, from Chestnut Grove to Minerva Ky
Smith, F L, from Sheffield, Mass, to 1130 Bridgeport, Conn
Sheldon J G from 204 S Lincoln St to 656 Jackson Boul Chicago
Searles L M from Mt Ayr, Iowa to 1025 O St Lincoln Neb
Schmidt, O from Fond du Lac Wis to 202 Lincoln St, Chicago
Titterington, M B from Norwalk Ohio to Jerseyville Ill
Taylor, J M, from Bar Harbor, Me to 1501 Pine St Philadelphia Pa
Terry, M C from Ft Shaw Mont, to 628 Adams St Chicago
Thompson, G N from New Milford, Ill, to Keokuk Iowa
Taylor P K from Kingston, R I, to 211 W 139th St, New York City
Wirt W E, from 122 Euclid Ave to 477 Prospect St, Cleveland Ohio
Wooding, B F from Denver Colo, to Fortress Monroe, Ohio
Zimmermann, M W from 117 S 17th to 1522 Locust St, Philadelphia

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LETTERS RECEIVED

American Therapeutic Co (2) New York City

Bailey, W C, Las Vegas Hot Springs Mexico Bascom H, Ottawa, Ill Bailey, Milton Sheldon Iowa Brown, F F, New York City Book Keeper Co, Ltd Detroit, Mich

Campbell R D, Grand Forks, N D Breveling Geo B Philadelphia, Pa Comstock, H C, Sioux City Iowa Culbertson J C, Cincinnati

Emanuel, H W Milnor N D

Fisher, Lewis, New York City Fuller s Adv Agency C H Chicago

Gardner, R W, New York City Gihon A L, New York City Greenleaf C R, Washington D C, Greenley, T B, Meadow Lawn, Ky Girard A C Camp George Gordon Meade Pa

Hawley B C, Burlington, Vt Hartshorn W E, Minneapolis, Minn Henley G Ann Arbor, Mich Hummel Adv Agency A L, New York City Hektoen L Chicago

Johnston C H, Grand Rapids, Mich

Kindred J Jos Astoria, L I, N Y Kempson J F New York City

McLean Donald Ft Monroe Va McConnell, E P Kirksville Mo Minor J C Hot Springs, Ark

Parker E F Charleston S C Powell E W, Omaha Neb Punton, Jno, Kansas City Mo Potts Mrs R D, San Francisco Cal

Reese, Lester, Minerva Ky, Riley W H Boulder Colo

Stillwell & Co, Melbourne Australia Saunders, W B Philadelphia Pa Scott & Bowne, New York City Sothoron Mrs J T Washington

Townsend W G Baltimore Md Tucker F E S Battle Creek, Mich, Tripp Adv Agency W H New York City

Wessinger, J A Ann Arbor Mich Wood, W F Mishawaka, Ind Wharton, J F Chrisman Ill Weeks Drug & Chemical Co Jackson Mich

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THE PUBLIC SERVICE

Movements of Army Medical Officers —To Santiago, Cuba, via New York City First Lieut E Howell, [illegible]th U S Vol Infantry, from the general hospital, Ft McPherson Ga, to join his regiment and the following acting asst surgeons George B Heinecke Alexander McF McMaster Samuel L Hannon, Edwin P Hayward, Dudley W Welch and Wm H Block all from Washington, D C

To Ponce Porto Rico via New York City Acting Asst Surgeons W C Berlin J Carlisle DeVries George G Morris from Washington D C, H E Sears from Camp Wikoff, L I, and Robert W Andrews from Camp George H Thomas Ga

To duty at Camp Meade, Middletown, Pa Acting Asst Surgeon Geo Dock To duty at Camp Hamilton, Lexington Ky Acting Asst Surgeons Harry R Lemen from Camp Wikoff L I and H L Gilchrist from Camp George H Thomas Ga To duty with troops at Anniston Ala Lieut Marshall M Cloud, asst surgeon U S A, from the U S general hospital at Ft McPherson Ga To duty with troops at Jacksonville, Fla Acting Asst Surgeon Raphael Echeverria from Tampa, Fla To duty with troops at Willet s Point N Y Acting Asst Surgeons H W Eliot and R C Holcomb from Camp Wikoff L I To report to the Surgeon General at Washington D C Lieut Col Rush Huidekoper chief surgeon U S Vols from duty in Porto Rico Acting Asst Surgeon H Lincoln Chase from Ft Crook Neb

Honorably discharged Majors George Cook and Clayton Parkhill, chief surgeons of volunteers, Major W H Devine brigade surgeon and Major Thomas G Summers surgeon 2d Tennessee Inf and brigage surgeon of volunteers

Resigned First Lieut Frank E Bateman asst surgeon [illegible]th Massachusetts Infantry First Lieut Norman D Harvey, asst surgeon 1st Rhode Island Infantry First Lieut Charles H Schlichter, asst surgeon 3d New Jersey Infantry and Capt Theodore Rethers asst surgeon 1st California Infantry

Acting Asst Surgeon Donald Mclean from Detroit, on duty at Camp Meade, is the son of Donald Maclean Sr, who is on duty as chief surgeon of division at Ft Monroe Va

The Journal of the

American Medical Association

Vol XXXI CHICAGO, ILLINOIS, OCTOBER 15, 1898 No 16

ADDRESS

THE EVOLUTION OF SPECIALISM IN MEDICINE

The Presidential Address delivered before the American Association of Obstetricians and Gynecologists, at Pittsburg Penn , Sept 21 1898

BY CHARLES A L REED, A M , M D
CINCINNATI, OHIO

Fellows of the American Association of Obstetricians and Gynecologists

In conforming to the custom which demands an address from your retiring president, I cheerfully and feelingly comply with that other usage which requires that my first expression, on this occasion, shall be one of profound gratitude for the honor conferred in electing me to preside over this, your eleventh annual convention

We have at this meeting entered upon the second decade of our organic existence The moment is opportune for a brief reflection upon the purpose which brings us into annual convention That that purpose is real and deep and earnest is shown by the fact that each of our reunions but serves to increase the enthusiastic devotion to work which has always characterized our proceedings From the day of the preliminary convention at Buffalo, April 19, 1888, to this moment, there has been no flagging in the task to which we, as a body, have set our hands—the task of broadening, deepening and refining those beneficent departments of the healing art embraced in the title of our organization To this congenial task we shall continue to devote the best energies of our nature But while our object and purpose is clear and distinct, it may be well for us to pause a moment and consider, in a somewhat philosophic way not only our present status, but those forces and conditions which brought us into existence and those influences which shall determine our destiny

It is safe to accept ourselves, in our organic form, as an integral part of a complex social fabric Social fabrics such as ours have their origin in primitive conditions from which they are evolved in conformity to established laws—laws which deal with matter and motion and force We can fancy that the starting point was a stable equilibrium, which, in fact, can be nothing more than a theoretic conception that marks the transition between growth and decay between life and death In the course of those changes which we recognize as developmental and progressive we are constantly confronted by phenomena which display on the one hand the persistence of immutable force, and on the other the diversion of that force into multitudinous channels through the instrumentality of resistent inertia The results are not only correspondingly multitudinous, but each result is susceptible of further segregation, in the course of proggession to final effects Thus, each division of initial force results in the changing of a uniform into a multiform force, while each separate form of the latter becomes itself a specialized force, susceptible of further subdivision It follows, therefore, that we must accept as a fundamental sociologic doctrine, based upon primary biologic law, that progress is due to the gradual evolution of heterogeneity This process is exemplified, not only in the complex social organisms, but in every phase of organic life The seed that drops into the soil speedily loses its homogeneous character in the process of germination, and, still further, in each successive change, until maturity is attained in shrub or tree or plant In the act of human reproduction, the same phenomena are exhibited in even more complex form in the mysteries of embryologic development and in the conditions of subsequent individual existence What is true of the individual members of the vegetal and animal kingdoms is still further manifested in the origin and development of species in those departments of nature The ultimate products are manifested in the complex flora and fauna that today entrance our naturalists in their efforts of analytic research

We find the lesson that best subserves our purpose exemplified in the initial changes which take place among the most primitive of peoples Let us take, for example, as suggested by Mr Spencer, a tribe of North American Indians Living as they do chiefly by the chase, an early necessity which they encounter is the means of killing their game, and let us say, each man provides himself with arrows for the purpose Presently one of the number, as the result of accidental influences or conditions, discovers that he can make better arrows than can his fellows They, in turn, desiring the best implements, go to him for their arrows, for which they compensate him with mats or baskets or fishing gear, while he, stimulated by reward and the distinction implied by patronage, restricts his labors to his new-found task improving his product in excellence with that increasing skill which comes alone from practice The influence is reciprocal, and its widening range is noticed in the improving quality of the mats and baskets and fishing gear made by those who find it no longer necessary to make their arrows Here is the multiplication of effects from an initial cause, and here too, we observe the commencing specialization of function and of labor exemplified among the most primitive of peoples What is true of these simple folk is true in a more pronounced degree throughout the increasing complexity of civilized society So true is this, that today there is not a single department of human activity there is not a single product of human labor, mental or physical, but is dependent for its possibility upon numerous other highly specialized human activities In the building of a house, how many special activities are exercised in forest in quarry, in kiln in factory and in the final act of construction, until the finished structure stands ready for the coming of its owner? In the construction of the stately bridges that span the three rivers that here mingle their tides, how many "specialists" have been engaged in the mine, the forge, the foundry and the coffer-dam? In making and operating the railroads over which you came hither with such comfort, safety and speed, how many "specialists" have been and are employed? The telegraph, the telephone, illuminating plants, and hydraulic institutions are but a few—a very few—other examples made possible only by employment of highly-specialized human skill. From these observations, we are forced to conclude, with that master-genius who has formulated with such clearness the philosophy of evolution, that a "part cause of evolution is the multiplication of effects, and that this increases in geometric progression as the heterogeneity becomes greater"—conclusions which are not only "established inductively but are deducible from the deepest of all truths."

But if primitive people required arrow-makers or the fabricants of other implements, other necessities speedily arose, chief among which was attendance on those who were injured in the chase, who were wounded in battle, or were sickened by the effluvia of the primeval swamps. It was at this point that your progenitor, "the medicine man," stepped upon the scene. He is the necessary and inevitable incident of every primitive people. The Egyptians had their sages, soothsayers, and *pastaphori*, the Persians had their *genii*, the Phœnicians their *cabiri*, the Hindoostanese their *vaidyas*, the Tartars, their *shamans*, the Scythians, their *cnares*, the people of Borneo and Sumatra, their serpent-charmers, the Zulus, their rain doctors and *tnwalas*, these are among the examples of the earliest formation of the medical branch in the social segmentation of primitive peoples.

In compliance with the law governing the multiplication of effects, these primary specializations were speedily followed by secondary specializations, traceable among peoples whose progress in civilization enables us to follow the successive phenomena of their evolution. Thus, among the earliest Greeks, who inherited much from antecedent peoples, and who appear in the arena of history with a complex civilization, we find, at the Homeric period, medicine locked up in the noisome cabinet of superstition, zealously guarded by an ignorant priesthood, yet in the days of Hippocrates there were regular surgeons to the armies, there were midwives, or navel cutters, there were oculists, dentists and lithotomists, and there were *iatreia*, or clinics, both public and private. Rome, which began with the *augurs* and *haruspices* and other practicians of base superstition, had so far exemplified the process of specialization, that by the time of the Empire, there were not only general practicians, but there were, according to Baas, "oculists, aurists, surgeons, dentists, uroscopists, specialists in bleeding, catheterization, and clysterization, herb doctors, milk doctors, gynecologists, movement curers, specialists in private diseases, in the treatment of fistulæ, in the cosmetic art, hair doctors, wine doctors, hernia doctors, etc."

We all understand that this high degree of specialization occurred as the distinguishing feature of the highest civilization ever attained before our own epoch. It was the highest degree of social organization known to other than modern history. This was true, not only of the medicine of that period, but of all the avocations of life. The process of segregation had been carried to its logical limit, until each resultant product was without that potentiality essential for its perpetuation. A cycle in the evolution of the race had been defined—a cycle as clear, as distinct, as inevitable as that which marks the moulting of the dove, the flowering of the rose, or the precession of the equinoxes. Majestic forces operating under resistance had sustained deductions at each successive stage, until motion had practically ceased, and humanity, a trivial plaything in the arcana of nature, was brought to a state of relative equilibration. The heterogeneous had resolved itself into the homogeneous, the specialized had become the generalized, and the inactive the inert, as the world, wrapped in the Lethean mantle of the church, dropped into its long, reposeful sleep. From this sleep the giant of humanity finally awoke, refreshed and surcharged with potential force with which to inaugurate another cycle in the evolutional development of our race. Again we see in the great laboratory of what we are pleased to call civilization the same laws producing the same results under the same conditions. Again do we see the homogeneous undergoing division, and the process of specialization again at work. In illustration of this fact, it is to our present purpose only to speak of our own profession since the breaking of that dawn which shed its most effulgent rays in the dark corners of the cloister. At that period, the church, in its complete dominance, had usurped practically all the functions of society. The church was, in fact, the form and expression of the homogeneity of that somber period. As a consequence, when the work of social segregation was again inaugurated, the healing art was exercised exclusively by the priesthood, which had been the custodian of its secrets during the long, dark centuries. The sons of the monasteries were in those days, in the broadest possible sense, "general practitioners," but the natural process of specialization was again soon manifest in this as in other departments of social evolution. In France, for instance, at the end of the Middle Ages, the work of segregation was manifested by the separation of medicine and surgery. The surgeons were, in turn, further segregated into classes, one of which was composed chiefly of barbers. Other specialties, more or less crude in conception, ill-defined in limit, and inefficient in application, were developed in numbers quite as great as those which characterized the "specialisms" of the Roman epoch. The same evolutional changes were manifest in England and Germany, indeed, all of Western Europe was demonstrating the operation of those sociologic laws, the existence and effect of which I have endeavored to emphasize in your presence today.

But it were impossible and quite aside from my purpose to trace the gradual development of our art along the lines which I have indicated. Modern specialism in medicine—a present product of this process of social segregation—may be said to date from the period when the French schools, in the early decades of this century, took up seriously the question of pathologic anatomy. This was the basis upon which the work of division began. The imitative Germans zealously followed the example of their more progressive neighbors of the South, with the result that, today, the great profession north of the Rhine, through the influence of specialism, has attained a dignity and a distinction which it never before enjoyed. In Great Britain the division of work, scientific and practical, was inaugurated at about the same time, although in this regard, as in others, the profession of our mother country has been very conservative The United States, during the earlier decades of national existence, was largely controlled by European influence—at first French, then German, latterly English—while today she is thinking for herself and moving for herself, quite independently of foreign initiative, along lines which make for progress The obstetric art is as old as the function of reproduction, although the latter ages have witnessed its present refinements It has been said "obstetrics married surgery, and that the fruit of the union was bright-eyed gynecology" The accouchement probably occurred at the time Récamier invented the speculum in 1801 Abdominal surgery had its rational beginning in 1809, under the masterly hand of the immortal McDowell of Kentucky, and must stand as America's conspicuous contribution to surgical progress Everything in medicine and surgery from that day to this is essentially contemporaneous history, in which occur conspicuously many of our proudest American names But pardon these references, they are not made to revamp an old story, but rather to give force and illustration to my contention that specialism became a verity in response to natural laws, which even today determine its destiny

We have come to that point in our discourse when we may with propriety ask Has specialization today been carried to that degree that its resultant products stand without the potential force necessary for their further perpetuation? Is our science today in the imminence of a fatal equilibration? To each of these inquiries I answer "no" And I say it, too, in the presence of the fact that never before in the history of human activity, neither in Greece nor in Rome, has specialization reached its present degree of refinement But, happily, the present cycle of civilization is characterized by the operation of forces which found no exemplification in the earlier plays on the great stage of the world Today, responsive to the edict of the gentle Nazarene, neither cloister, halls, factory, shop, college, school, family nor profession, withholds its modicum of knowledge that may make for the common weal The proclamation of love heralded from the Mount, today reverberates through the nations In conformity to natural laws love itself has segregated into emulation, generosity and benevolence Herein is the corrective tendency of the specialism of today It is fully exemplified in the proceedings of this and similar organizations, which meet annually to discuss the accumulated knowledge of the year, and then, not only in the convention hall, but through the avenues of the medical press, to lay the matured products of their wisdom, as a freewill offering, upon the common altar of the profession In this way, knowledge, instead of remaining in the hands of those who evolve it, becomes disseminated for the common welfare There is not a day but that the general medical profession becomes enriched in resource and potentiality by the accretions derived from specialism It would seem that in this way one specialty after another must sooner or later lose its distinctive characteristics and return to the great body of the profession from which it was derived What with our colleges, universities, clinics, hospitals, journals and societies, the connection between the specialties and the general profession is always close and intimate The characteristic of the present era, one that distinguishes it from former civilizations, is that the process of specialization is never carried to the point of complete segmentation Each specialty, however assiduously cultivated remains an integral part of the great general profession, the masters of which must ever stand as our ideals All specialists today are primarily the products of general medical culture The act of specialization takes place after and not before entrance into the general profession When this order is changed, then comes the day of danger Unlike the specialists of Greece and Rome, those of today are physicians and something more, and happily, their influence is to make something more of physicians This tendency, which in Germany has come to its fullest fruition, is already marked the world over, But a few decades ago, the practice of gynecology, as now known and understood, was in the hands of a few practicians, to whom it brought compensation and distinction, today it is in the hands of the multitudes, to whom it brings neither It may be said that the general knowledge of gynecology has gone back to the profession where it belongs Those who remain practitioners of that department maintain their position by the joint influence of voluntary self-assertion and special adaptability It is undeniable, however, that with reference to our own department of practice the lines are shifting From the pelvis to the abdomen was but a natural step in the application of our surgical resource Those who were gynecologists but a few years ago are, many of them, abdominal surgeons today, with an unmistakeable tendency to become general surgeons tomorrow

While all this is true, there remains a *raison d'être* for organizations such as this devoted to the cultivation of special departments of knowledge, and there will continue to remain a reason for the continuance of specialists in each of the recognized departments of medical science and medical practice This reason is to be found, first, in the highest interests of the general medical profession, and next, in the highest interests of the masses, who are its beneficiaries From the standpoint of the medical profession, each specialty, as has already been stated, is to be recognized as an integral and organic part, a distinct member controlled by its distinct center in the general sensorium, but a center in thorough correlation with its associated centers With this idea the development of a specialty is nothing more nor less than the development of a particular part with a particular function—a development which tends in the direction of increasing general efficiency No matter how generally diffused may become the knowledge of, for instance, gynecology, there will yet remain within the domain of those subjects which are capable of still further development attractive incentive for work The cultivation of these departments must remain in the hands of those who honestly concentrate themselves upon the task To such devotees as honestly assume this attitude and its attendant responsibilities, will always be accorded recognition and reward - But the condition which can perpetuate specialism, in this or any other department, is a narrowing rather than a broadening of limits The broadening of limits tends to ultimate mergence and to homegeneity A large number, possibly a majority, now identified with special work, may elect to shift their personal activities in this direction, while there are others who, standing upon an equally strong basis of general culture, will decide to concentrate their energies in carrying to further refinement and perfection a more limited department of science. Thus, happily for the progress of the world, specialism will not disappear from society. On the contrary, specialism is manifestly to be even more distinct than in the past, while specialists, as known to the broad and progressive profession of America, will be able to gain recognition only by conforming to severer tests than are now applied. It is safe to predict, therefore, that in the not distant future there will be fewer specialists, but, happily, better ones. The lines may, and possibly will shift. Existing specialties, or certain of them at least, through the influence of further segregation and final equilibration, may, and probably will, disappear into the general profession, while segmentation will be inaugurated at other points to result in the development of other specialties. Thus shall the great future witness the mutations of progress.

ORIGINAL ARTICLES

A CONTRIBUTION TO THE PHARMACOLOGY OF CANNABIS INDICA

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY C. R. MARSHALL, M.D.
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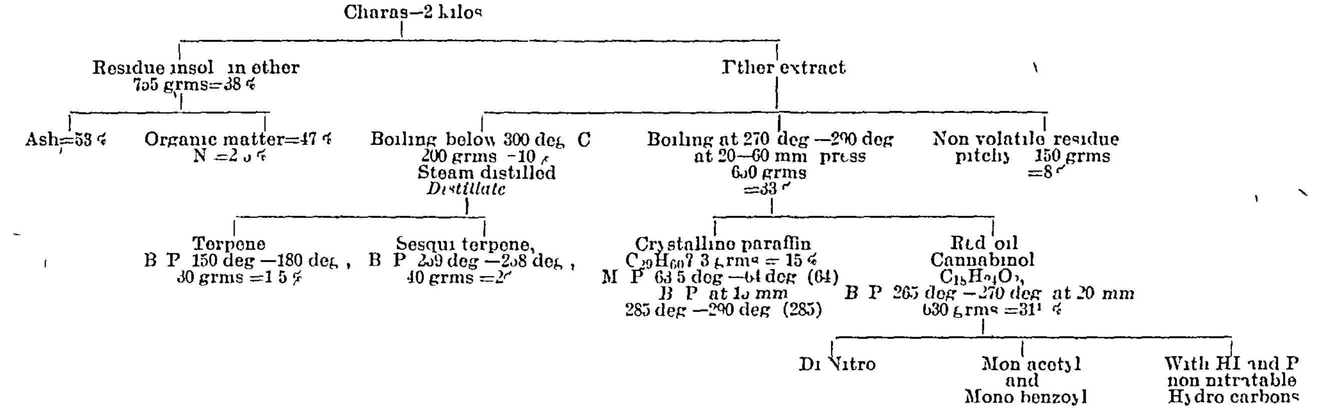
Notwithstanding the large amount of labor which has been expended on Indian hemp, we know comparatively little of its pharmacology. The active principle, it is true, has been isolated, in a more or less impure form, by O'Shaughnessy, Robertson, the brothers Smith, and more recent investigators, but the more important question of the changes this undergoes has not, as far as I am aware, until recently, been attempted. To me this is the most interesting part of the inquiry. Apart from the great financial loss entailed by the growing inertness with age of the drug, the variability in the strength, its preparation has led to numerous misfortunes in medical practice, and a distrust in its use as a therapeutic agent. The isolation of the active principle of the drug would not matter if we could only insure our preparations being of constant strength. But, without knowing the cause of the increasing inertness, this it is impossible to do. With this cause, among other questions, I intend to deal in this paper.

As I have dealt elsewhere[1] with the history of the active principles of Indian hemp, I shall confine myself in this communication to the work of the most recent observers. Two and a half years ago three Cambridge chemists—Wood, Spivey and Easterfield—commenced a re-investigation of the chemistry of Indian hemp. They worked with charas, as being the most active preparation of the plant, and by extraction with organic solvents (alcohol, ether, petroleum ether, etc.) and subsequent fractional distillation, they isolated a mono- and sesqui-terpene, a crystalline paraffin and a resinous body (cannabinol), an indistillable pitch and an insoluble sandy residue were left behind.[2] The proportions of these substances are shown in the subjoined table, taken from a communication by Easterfield and Wood to the Cambridge Philosophical Society.[3]



Other samples more recently examined have not been found to be so good as this. A second lot contained only 15 per cent. cannabinol, and a third only 10 per cent. Furthermore, the cannabinol from these samples was not so pure as that obtained from the first sample and from the cannabinol obtained from the last the acetyl derivative of a higher homologue of the pure substance has been prepared. This homologue was present to the amount of 10 20 per cent.

The products (with the exception of the paraffin) and certain impure intermediate substances were passed on to me for pharmacologic examination. I naturally turned my attention first to the resin. The terpenes were present in too small an amount, and their chemic constitution and physical character were not such as to suggest a cannabis-like action. Personne,[4] it is true, attributed the activity of the drug to an oily liquid, *cannabene* ($C_{18}H_{20}$), which Valenti,[5] and more recently Vignola,[6] have shown to be an impure sesqui-terpene, but Roux[7] has proved physiologically that cannabene is not the active principle. On the other hand, numerous investigators had shown that the active principle is of a resinous nature. The paraffin was only present in very small amounts, and from its constitution and properties it is easy to infer that it possesses no marked physiologic properties.

The resin was found to be active. It possessed, as far as I could see, all the peculiar effects of the hemp plant. The question to be settled was its purity. As it boils at 265 to 270 degrees C, under 20 m.m. Hg pressure, and possesses a constant composition, the presence of an impurity seemed improbable At least it could only be due to a stereo chemical isomer or a substance with closely allied composition and properties The possible presence of an alkaloid was avoided by treating the crude drug with dilute sulphuric acid before commencing the investigation But no alkaloid has been found in charas

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[1] The Lancet, Jan. 23, 1897, p. 235.

[2] Journ. Chem. Soc., Vol. lxix, i, p. 539, 1896.

[3] Proc. Camb. Philosoph. Soc., Vol. ix, p. 148, 1897.

[4] Journ. de Pharm. et de Chem., Vol. xxvi, p. 48 (1857).

[5] Journ. Chem. Soc., Vol. xl, p. 284 (Abst.).

[6] Ibid., Vol. lxvii, i, p. 623 (Abst.).

[7] Bull. Gén. de Thérap., 1886, p. 492.

In a more or less impure form cannabinol has been isolated from various commercial preparations, viz Merck's cannabinon, extractum cannabis Indicæ ethereum, resina cannabis Indicæ, and T & H Smith's cannabin

PHYSIOLOGIC INVESTIGATIONS

Experiments have been carried out on cats, dogs, rabbits and myself, and the investigations have been mainly confined to the administration of the various substances by the mouth—a condition necessitated by the comparative insolubility of the drugs With the experiments in detail I do not intend to deal—admirable descriptions have been given by various observers, both in this and other countries—but in appendix I will be found types of experiments and in appendix II a synopsis of the experiments made By combining these and referring to the text, little difficulty will be experienced in forming mental pictures of the condition in each individual experiment

Most of my experiments were made upon two dogs One was a mongrel puppy something like an Airedale terrier in breed, the other was a young adult fox terrier Later a third dog, an English terrier, was added The first two dogs were of very different temperament, the one (Airedale terrier) was self-reliant and intelligent, the other was affectionate, but nervous to an extreme degree The English terrier although timid, possessed much more character than the last one This question of temperament, I believe, is of considerable importance in dealing with the finer effects of cannabis indica The cats were adults, the rabbits young, usually 3 to 4 months old

The *terpenes* in the comparatively small doses in which I was able to give them, produced no noteworthy symptoms beyond slight diuresis In rabbits there seemed to be slight transient excitement, but the compound given to these animals was impure On myself 0 5 c c produced no effect, 2 c c (sesquiterpene) slight and transient listlessness and heaviness of the head

The *resin*, cannabinol, in dogs constantly produced the same qualitative effect, although it varied slightly in the different animals and in the same animal from time to time The first noticeable symptom (one half to two hours) was slight lassitude and an appearance of heaviness about the eyes Gradually the depression increased and sleepiness and usually sleep followed, yawning and sighing were not infrequent the body when standing swayed from side to side and this gradually increased until the animal fell over or suddenly pulled himself up with an effort Usually after falling he remained in this position and went to sleep Sometimes the rocking motion occurred in an antero-posterior direction, especially in the fox-terrier In this animal, too, the standing position was more characteristic, the hind legs being half bent In this position and markedly unsteady he usually stood gazing into the fire Distinct ataxia during walking was present or absent according to the dose After large doses the attention was blunted, but after small ones no effect in this direction was noticed After three to six hours the animals began to improve At this period the larger sometimes became extremely frolicsome and if played with would run about barking in a high-pitched voice Usually both animals slept or lay before the fire until taken to the kennel for the night

When under the influence of the drug, the pupils were sometimes slightly dilated, sometimes unaffected occasionally contracted, the pulse and respiration were slowed, but whether more than could be accounted for by the condition of rest it was often difficult to decide My general impression is that the pulse was slower than during ordinary sleep The temperature, with one exception, invariably fell, at the most not more than 3 degrees C, usually not more than 1 to 2 degrees C The fall naturally varied with the temperature of the room It was most marked in the fox-terrier, and in this dog trembling was not an infrequent symptom The reflexes were always present and the sense of pain was doubtfully blunted, the olfactory sense, however, seemed depressed Vomiting was a frequent symptom, salivation, independent of any emesis, a rare one In the fox-terrier, increased micturition was occasionally obtained The influence of dose was not marked Generally speaking, the symptoms were fairly constant, but owing to the insolubility of the material complete absorption was difficult to insure Consequently, in dogs at least, a strictly quantitative comparison could not be made Occasionally a small dose produced more marked symptoms than a larger one, but this was rare, and in the fox-terrier the onset of the symptoms as a rule was later and they lasted longer than in the other dogs On the whole, however, the symptoms were fairly proportioned to the amount given After small doses (0 02 g per kg) quietude, heaviness about the eyes, sleepiness and usually slight unsteadiness occurred, attention was not appreciably affected, and the symptoms almost passed away in five or six hours In the English terrier this dose produced a very marked effect, the ataxia being as severe as after much larger doses to other dogs After large doses (0 1 g per kg) there were marked depression, ataxia, vomiting and sleepiness, although sleep was not an invariable symptom In the evening food was refused, but the following morning they seemed quite well

In cats effects similar to those occurring in dogs were obtained, but the action was more severe and prolonged After a dose of 0 058 g per kg improvement did not commence until after twenty-five hours The depression and muscular weakness were more marked than in dogs, and salivation was a more constant symptom Total anorexia and consequent loss of weight occurred after large doses A detailed description of an experiment will be found in appendix I

On rabbits preparations of cannabis indica exert comparatively little effect This was observed by O Shaughnessy, and it has been noted by more recent investigators The same effect was obtained in my own experiments with cannabinol But I am inclined to believe that the immunity is more apparent than real After large doses, slight depression and quietude are the only observable symptoms but on further examination a fall in the number of heart-beats and respiration and the temperature was found to occur, the animal refuses to eat and death usually ensues The low cerebral development of these animals prevents them showing unmistakable signs of cannabis poisoning, and these are only found in observations on the vegetative functions The lethal dose, however, is much larger than for dogs or cats

The effect on myself was very similar to that described by other observers as peculiar to Indian hemp After large doses (0·1 g) there was a sensation of dryness of the lips, and of increased viscidity of the buccal mucus, a pleasurable tingling throughout the body, muscular weakness, slight ataxia, risibility and loss of time sensation My pulse was said to be increased in frequency, sensation was somewhat blunted, and the pupils were slightly dilated

After small doses (about 0 02 g) the first symptom was usually loss of power for mental work A typic condition of mental exhaustion set in Sentences could not be conceived, except by powerful efforts, and these were not often forthcoming

After intermediate doses (0 05 g) the ability to work was lost altogether I usually sat before the fire doing nothing, almost thinking of nothing There was a marked unwillingness to move Pleasurable tingling in the limbs, very slight ataxia and other symptoms similar to those obtained after a larger dose were present Time passed quickly Sleepiness was sometimes, but not always, present As an early symptom a peculiar indistinctness of the periphery of the visual field occurred, and later it was found that the point of regard was made to travel with greater difficulty, as along the line of a page Depression usually continued throughout the following day

The residual *pitch*, when dissolved in oil, was active, but much less so than cannabinol The symptoms were the same Given in the solid form it exerted little effect In all probability the activity was due to unchanged cannabinol present Certain intermediate impure products were tried, but none of these was as active as cannabinol The insoluble residue was inactive

THE ACTIVE PRINCIPLE

Thus, by a process of elimination, cannabinol was found to be the most active ingredient of the charas products But in order to determine its comparative activity, control experiments were made with the crude material and extracts obtained from it The natural product exerted much the same action as cannabinol, but both spirituous and oily extracts were somewhat more active, a similar result was obtained with Merck's cannabinon This raised the question as to whether cannabinol is the sole active ingredient of the plant I think we must assume that it is, at least, the active principle The symptoms produced by the natural product and the resin are practically the same, and this is an important point It suggests that we must look for changes occurring in the resin either during its manufacture or subsequently, or to a diminished absorbability as compared with extracts of the crude product That faulty manufacture, etc , will produce a more or less inert substance, will be seen from evidence given later, but I am inclined to attribute to the lessened absorption the more important rôle The terpenes probably increase the rapidity of absorption of crude extracts, but this I have not yet been able to put to the test That cannabinol does not possess all the activity of the hemp plant I am prepared to admit, but this is the case with most other crude drugs and their so called active principles In the case of charas the terpenes probably aid in its physiologic action, as the crude drug seemed to produce more excitement than pure cannabinol, and when the drug is smoked it is possible that pyrodene and other bases, which are produced by the destructive distillation of the substance, may aid in its intoxicating effects If any other substance aids in its action we have at present no indication of it Moreover, that cannabinol is the chief active ingredient is supported by the fact that the activity of different products is roughly proportionate to the amount of cannabinol they contain, and that the growing inertness of Indian hemp can be explained by changes occurring in this resin

The question of the purity of cannabinol can only be settled by further research, and this, I may add, is being undertaken The only demonstration of its purity in the present state of our knowledge, viz the reconversion of the crystalline acetylized derivative into cannabinol, failed The acetyl derivative was not crystalline and the reconverted cannabinol was much less active, physiologically, than the parent substance This might be explained in many ways, but at present it is idle to speculate

The last and worst sample of charas yielded a substance which contained a higher homologue of pure cannabinol This homologue regenerated from its acetyl compound was physiologically inactive Whether it is active previous to acetylizing is at present impossible to say

THE CAUSE OF THE INACTIVITY OF INDIAN HEMP

The different samples of the same preparation of Indian hemp possess varying physiologic effects, and that good samples darken and deteriorate in keeping has long been known, but until recently no satisfactory explanation of this has been offered In 1894 Leib Lapin,[8] by means of fractional precipitation prepared a substance which he termed *cannabindon* This presented the appearance of "a beautiful dark cherry-red mass of thick consistency, which took the form of the vessel in which it stood, and showed a smooth horizontal surface " Its formula he gives as $C_8H_1 O$ It possessed distinct reducing properties, and rubbed up with chocolate and left a week, its physiologic action was in great part lost The latter he explains as being due to an oxidation of the preparation resulting from its finely divided state and its contact with fat and air, and he strengthens his position by a reference to the similar behavior of ergot, which undergoes oxidation less readily than cannabindon. The oxidation product he states "is inactive or very slightly active "

Although I was aware of Leib Lapin's views, my own researches were carried out independently What first drew my attention to the matter was the gradual darkening which cannabinol underwent when left exposed to the air in a test-tube the darkening commenced on the surface and gradually extended downward, the superficial layers being affected rapidly, the deeper layers very slowly In order to determine whether this was due to oxidation, and whether in consequence the activity was affected, oxygen was slowly passed through cannabinol kept fluid by immersion in a sulphuric acid bath at 150 to 160 degrees C The material rapidly darkened and the consistency increased After passing the oxygen through for six hours the activity was found to be decidedly less It was then bubbled through for thirteen hours more, the temperature toward the end of the experiment being raised to 185 degrees C in order to keep the substance fluid On cooling, the substance set to a hard, brittle mass, exactly resembling pitch in appearance. No loss or gain of weight, within the limits of experimental error occurred. This pitchy material given in the solid form possessed scarcely any action, but this in part is due to the lessened solubility and higher melting-point, for if previously discolored in oil, a distinct, though comparatively slight, effect is obtained. Dr. Easterfield, who has made all the analyses in connection with the charas research kindly undertook one of the oxidized cannabinol. The percentages obtained, compared with those of cannabinol, were

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[8] Ein Beitrage zur Kenntniss der Cannabis Indica Diss Jurjero, 1894.

Calculated for $C_{18}H_{24}O$ (cannabinol)	Found	Calculated for $C_{18}H_{24}O_3$
C=79.4	C=77.7	C=75.0
H= 8.8	H= 7.5	H= 8.3

The product obtained was therefore not completely oxidized, and the activity it retained was in all probability due to unchanged cannabinol. As a control experiment carbon dioxid was passed through a similar sample of cannabinol similarly treated. Very slight darkening, probably owing to slight admixture with air occurred, but there was no increase in consistency. Only a slight diminution in activity was observed.

The influence of temperature was tried. Cannabinol distilled at 400 degrees C. under atmospheric pressure was found to be slightly less active than cannabinol distilled at 265 degrees C. under 20 mm. Hg pressure, but when the substance was heated in sealed tubes at 220 to 260 degrees C. for twenty-four hours, no very great loss of activity occurred, although this was distinct. As slight oxidation may have resulted during the process, the influence of temperature *per se* may be disregarded. The action of aqueous vapor has not been determined.

It would therefore seem as if the loss of activity of Indian hemp was due to oxidation of the active ingredient. The terpenes, like other members of this class, readily hydrolize, and this, doubtless exerts some effect in the deterioration of the crude drug. The obvious remedy is to keep cannabis preparations in air tight vessels until they can be used. For practical purposes a well-corked bottle seems to be sufficiently protective, but hermetically sealed packages, especially for transport purposes, are to be prepared. In sealed tubes we have kept cannabinol for seventeen months without the slightest change.

The limitation of the oxidation to the superficial layers probably explains many of the accidents occurring in practice. If the preparation has been long in stock and imperfectly protected, these may have become comparatively inert, and scarcely any effect may be produced, while a renewal of the prescription from deeper parts—or the substitution of a more recent preparation—may produce very marked effects. I am certain that the accidental administration of superficial and deep layers of cannabinol will explain some discrepancies in my own results, which previously were inexplicable.

As regards a chemical test for the physiologic activity of cannabis compounds, none exists, and the only indication at present is in the direction of their reducing power. This will probably give us some information, and I hope to deal with the question later. As far as cannabinol is concerned, the transparency is the best ready indication of its purity. When placed in an ordinary test-tube print ought to be read through it with ease; any blackening is due to admixture with oxidized material. If not carefully prepared impure products are readily obtained, and such give no more constant results than the ordinary preparations on the market. The transparency, however, is not an absolute indication of its purity, for the higher homologue of cannabinol, which, when derived from its acetyl compound is inactive, is almost as transparent as cannabinol itself. What the physiologic effect of this compound is in the natural state, it has not been possible to determine.

SUSCEPTIBILITY.

But the variation in activity of the preparations of Indian hemp will not account for all the differences in effect produced. A difference in individual susceptibility also exists. What this is due to we do not know. It is probable that certain types of men are more susceptible than others, and that certain habits, such as the alcoholic, have an inhibiting influence in this direction. The subject is a difficult one to treat from a purely experimental point of view. In the dogs the greatest effect seemed to be connected with greatest mental stability, but how much of this was due to variability of absorption and how much to individual differences it is difficult to say.

The following case which recently came under my notice is of interest in this connection, as it enabled me to compare the effect of the same dose on myself. A gentleman suffering from neuralgia took ¼ grain extractum cannabis indicæ (B. P.) in the form of a pill. The pills were made up by a well-known London druggist. The following account was written by the patient himself. "At about 4.30 on Sunday, feeling neuralgic pain in the right eye, I took one of the pills. I then had tea and read aloud for some time, feeling nothing unusual. But about 7.30, when dressing for dinner, I began to suffer from very curious feelings. I felt giddy and seemed to lose command of my actions, thoughts seemed to pass rapidly through my brain and I hardly felt responsible for myself. I went to my wife's room and described my feelings. She was alarmed at my appearance and said I was very white. I felt a sort of burning uncomfortable feeling inside and I tried to make myself vomit by drinking several tumblerfuls of hot mustard and water. This was partially successful, but I felt very ill and a doctor was called in. When he came I was unable to speak coherently, sentences were disjointed, and my memory partially failed me. I was ordered to bed and undressed with difficulty. I then shook violently all over, and my hands were cold and tended to contract. I was given some brandy and water and gradually I became more natural. Afterward I took some soup and fish. During my sleep I felt inclined to laugh, but I do not think I actually did so. The next morning I was comparatively well, but throughout this day and the next I did not feel quite well; there was a numbness and coldness in my legs and I feared I was in for an attack of influenza, but my temperature was normal." The neuralgia was cured, but afterward he told me he would rather bear the pain than the effects of the remedy. The remainder of the pills were given to me and on two occasions I tried them on myself. On both occasions the usual effects of Indian hemp were produced, viz., paresthesia in the extremities, inability to do mental work and sleepiness, but not the giddiness and other symptoms produced in the case cited. The effect may in part be due [illegible] and the absence of fear in consequence, but this is insufficient to account for all the difference The prescription was dispensed by a first-class pharmacist and there was no reason to believe that the extract was unequally shared

THE ABSORPTION OF CANNABINOL

For all practical purposes, cannabis preparations may be regarded as being quite insoluble in water, They are soluble in fats and organic solvents generally, but with the exception of fats these are not common constituents of the contents of the alimentary canal It is even doubtful what part fats play in the absorption of the drug If Moore and Rockwood's[9] view of fat absorption be accepted, the only influence they could have would be a physical one—the substance would be brought into a state of finer division and thereby rendered more susceptible to other agencies When given dissolved in oil, the onset of the symptoms is not distinctly earlier than in other cases, but as absorption probably only occurs from the intestine this observation is of little consequence The more important question is the solubility of the active principle in dilute acids and alkalies respectively According to Kionka[10] the resin of Indian hemp is insoluble in alkalies From the therapeutic point of view Germain Sée[11] states that cannabis is the peculiar sedative of the stomach Both these statements suggest that the active principle is soluble in an acid medium, and this is supported by the fact that cannabinol is actually soluble in strong sulphuric acid and glacial acetic acid But my results for dilute acids are opposed to this view, and contrary to the statement of Kionka, I find it soluble in dilute alkalies The following experiment proves this Two Erlenmeyer's flasks were taken, into one (A) was put 2 127 grammes cannabinol, into the other (B) put 2 335 grammes Both were left over sulphuric acid until they attained a constant weight, 100 c c, 1 per cent caustic soda solution was then added to A and 100 c c, 1 per cent hydrochloric acid (gas) to B Both were shaken occasionally and left twenty-four hours The alkaline solution soon became of a purplish color, which deepened, the acid solution remained perfectly clear After standing twenty-four hours, both solutions were poured off and the remaining cannabinol was rapidly washed with distilled water until the washings were free from acid and alkali respectively The flasks were again put over sulphuric acid and left until the weight became constant The alkali containing flask (A) had lost 0 03 gramme cannabinol, the acid containing flask (B) 0 005 gramme, the latter being within experimental error

It is therefore probable that the cannabis resin is absorbed under the influence of the alkaline juices of the upper part of the intestine In the mouth, solution occurs to a slight extent, as is evidenced by the peculiar unpleasant taste, but this can not be of practical importance The influence of other alimentary conditions has not been determined

The condition of the stomach, however, plays an important part in the time of appearance of the symptoms, probably by hastening or retarding the course of the drug to the intestines Thus in one case, when the drug was taken on an almost empty stomach, four hours passed before the onset of the symptoms, whereas if taken just before a meal, the first symptoms invariably occurred within one and a half hours Taken after meals the appearance of the first symptoms is variable In atony and dilatation of the stomach cannabis is said to be inactive (as a gastric sedative) The small solubility of the drug, even in alkalies, probably accounts for the insidious onset of the symptoms and its prolonged effect

HABITUATION

In order to determine roughly the influence of continued dosage on the activity of cannabinol, the two dogs were given very large doses every day for a week A small dose, similar to one given just before the experiment, was then administered and its effects watched The influence was certainly less than on the previous occasion, but the diminution was not marked Whether habituation to this remedy occurs less readily than with other hypnotics can only be determined by practical experience, I know of no reliable observations on the subject, although it must be well known In any case the tolerance is not likely to be so great as in the case of opium

During my experiments with the two dogs, this question of tolerance often presented itself, and it was on this account that a third dog was obtained Of the greater susceptibility of this there could be no doubt, but to a certain extent it was only apparent The experience was new to him, he walked about and stumbled when the other dogs would have laid down The same thing happened in the earlier experiments with these dogs, the ataxia was marked, later, they learned wisdom by experience, and laid down soon after the drug was given It was often difficult to get them to stand sufficiently long for any indications to develop

Although my experiments did not show any great amount of tolerance, they seemed to me to show some mental depression, the normal physical life of the animals seemed to run on a lower level, although this was difficult of proof That cannabis indica exerts a powerful depressing influence, on some individuals at least, there can be no doubt, and from experiments on myself I have little hesitation in joining the ranks of those clinicists who regard Indian hemp as a causal factor of insanity But this point, and others, I hope to develop in a later communication

EFFECTS ON SPECIAL ORGANS

Owing to the insolubility of cannabis preparations and the pressure of other work, exact experiments on the different organs have not been carried out A solution of cannabinol was made by heating an excess of the substance in a 1 per cent solution of sodium bicarbonate on a water bath, but the resulting product, which was of a brownish color and probably contained about 1 in 1000 cannabinol, had no distinct influence on blood-pressure A solution of cannabinol phosphate (8 per cent) in one experiment caused a slight fall and subsequent rise of blood-pressure, but from other points of view this substance was but slightly active

Cannabinol is, however, somewhat depressant to the heart A fall in the number of beats was constant, and in many cases this seemed greater than could be accounted for by the rest and sleep Thus, in the largest dog, a pulse of 108 fell to one of 48, and a slight irregularity, also noticed in rabbits, occasionally occurred That the blood-vessels were not dilated was inferred from a comparison with the action of chloral After this drug, there was not the same marked fall in the number of the heart beats, and the character of the beat was slightly different After a large dose of cannabinol my own pulse increased in frequency, after a small dose no effect was noticed, after intermediate doses I invariably forgot to take it No distinct effect on the respiration was observed It was slower and deeper, as in ordinary sleep

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[9] Journal of Physiology Vol xxi p 58

[10] Liebereich's Encyclopedia der Therapie Erst Bd s 556

[11] Ibid s 557

In the fox-terrier increased micturition was not infrequent, but this was not observed in the other dogs Constipation was not an obvious symptom After continued dosage some evidence of it existed, but this was not seen after single doses In myself it was rarely present Salivation was an occasional symptom, but as this occurs in dogs and cats after the exhibition of drugs possessing no specific properties in this direction, it is not probable that cannabinol exerts any specific action in this way In my own case dryness of the mouth was a more constant feature

The main action of cannabinol, however, is on the nervous system, and probably on the cerebral cells From introspective analysis it is difficult to avoid the conclusion that some peripheral action exists, but as all the symptoms can be explained by a central influence, it is simpler, in absence of proof, to accept this

One of the most prominent physical symptoms is the loss of time sensation This is mentioned by most writers But it is not peculiar to Indian hemp, as it occurs after mescal button and other drugs of a similar nature Its explanation, to my mind, is simple The estimation of time is a complex act and dependent upon our calling to consciousness a series of events When the physical state is depressed by Indian hemp a succession of ideas cannot be maintained, time ceases to exist, and it can not therefore be estimated Even the apparently slowly travelling second hands of a watch, which is observed when under the influence of Indian hemp, may be explained in a similar way The power of conception is more or less lost, current events are rapidly forgotten while those fixed in the memory by older associations may still be recalled Under the full influence of the drug, even those too are forgotten, and one's whole previous existence seems to be blotted out

A most interesting condition, after large doses is the occurrence, alternately, of loss of control and lucid intervals During the latter, all the elements of complete sanity are present, but the physical state is below the normal level In it the processes on which consciousness depends are readily exhausted, and the condition of irresponsibleness develops Slight mental strain during the lucid periods seems to hasten the occurrence of a state of irresponsibility A more complete rest from thought brings back the rational intervals The over estimation of distance was never distinctly observed by me, except to a slight degree on one occasion The effect is probably connected with the increased effort made to accommodate the ocular muscles to the required distance and is dependent on deficient will power Hallucinations, too, of a very slight character were only present in one instance—a result probably attributable to my lack of imagination In dogs, after large doses, the attention was blunted, and they became less obedient As far as I can see there seems to be no selective influence on any psychical phenomenon All such processes are depressed, but whether to an equal degree I am not prepared to state With this question however, I hope to deal at some future time

ILL EFFECTS

The most common ill effect, or rather after effect, I have experienced, has been depression, lasting the whole or greater part of the following day, after a large dose (0 1g) This, and the accompanying mental exhaustion, were decidedly painful, and the effect was markedly prolonged by attempts to do an ordinary day's work

In dogs, vomiting was not an uncommon symptom but this was much less marked than with morphin A slight, occasional irregularity of the heart in these animals and rabbits, has been mentioned, and a similar condition, viz an increase in the cardiac irregularity of heart disease has been observed by Prior[1] after cannabis preparations, in men

DERIVATIVES OF CANNABINOL

These have been investigated in connection with experiments on the constitution of this body Oxy-cannabin ($C_{11}H_{11}NO_4$) is inactive, at least in moderate doses Acetyl-cannabinol and the cannabinol regenerated from it were but slightly active The acetyl compound of the higher homologue of cannabinol, as as well as the substance (regenerated from the acetyl compound) itself, was inactive

Tri-brom-cannabinol, a brownish powder, was found to possess hypnotic properties In dogs the action was very slight, but on myself (after 0 1g) sleep and depression were marked, and three days of mental exhaustion followed

Attempts were made to obtain a more soluble preparation of cannabinol, and this was best accomplished by making a phosphoric ester Cannabinol was heated to 100 degrees C with phosphoric anhydride The melt was boiled out with alkalies, which dissolved nearly the whole of it, and this was then neutralized by hydrochloric acid An amorphous substance was obtained, which, on analysis, gave results agreeing with the supposition that it was cannabinol phosphate Physiologically, however, the substance was not very active, and injected subcutaneously into a dog produced an abscess

THERAPEUTIC INDICATIONS

Therapeutically, cannabinol is likely to be a valuable hypnotic It is purer and more reliable than the cannabis preparations on the market, but it does not appear to possess any other advantages over them It is not a powerful cerebral depressant (except in relation to its dose), and belongs rather to the substances termed "sleep producers" than "sleep forcers' Owing to its comparative insolubility its action is prolonged, and this in my own case leads to depression Its advantages are, that its lethal dose is considerable it does not inhibit secretory activity and it does not readily induce habituation Its disadvantages are, the excitement produced by early doses and the depression which follows its use It appears to be a slight analgesic, but how far its activity goes in this direction it is impossible, in the absence of experiments in which pain is present, to say This can only be proved by clinical observation Purely pharmacologic investigations do not support any other actions of this drug, but so far as they have been carried they do not deny their existence

In conclusion, I express my thanks to Messrs Wood, Spivey and Easterfield, for the material supplied me and especially to [illegible] aste [illegible] for the hel[illegible] he has given me during [illegible] work

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[1] Münch Med Woch No

Appendix I

TYPES OF EXPERIMENTS

Descriptions of personal experiments will be found in the *Lancet* P=heart beat, R=respiration, T=rectal temperature

Dog (English terrier), wt 7180 grams, P, 102, R, 16, T, 38 2 degrees C, (room temperature 20 to 22 degrees C), 12 10 o'clock, 0 14 gram cannabinol, 12 40, slight depression, distinct unsteadiness, 12 45, ataxia more marked, head unsteady, eyes heavy, 12 55, very unsteady, will not lie down, pricked up ears when cart passed window, no dilatation of pupils, 1 10, extremely unsteady, continually falling over, will not touch milk, P 96, T 37 7 C, 1 40, ataxia rather worse, still walking about, 1 50, vomited small quantity, mainly yellowish fluid, 1 54, vomited again, 2 10, condition same, constantly falling over, P 108, T 38 6 C, 2 20, vomited again, 2 30, *circus movements, then sat down, got up* and repeated several times, 2 40, vomited, 2 50, vomited, 3 10, slightly better, but still falling over, P 108, T 38 9 C, 3 40, been laid down last twenty minutes, slept partly, just got up, ataxia very much better at first but soon developed again, 4 10, sleepy, P 96, T 38 5 C, 4 40, still marked ataxia but much better, 5 15, further improvement, still unsteady and depressed, P 96, T 38 9 C, following morning, apparently well This was the only case in which a rise of temperature was noted

Dog (Airedale puppy), wt 6500 grams 10 30 o'clock, 0 5 gram cannabinol given in bread, P 192, 11 30, lively, no obvious effect, 11 45, sleepy, lay down, 12 30, still in same position, yawning, came when called but seems rather stupid, 1 00, walking about, when played with commenced to run about and bark in a higher pitched voice, 2 00, been asleep for last half hour, does not answer to name so readily, weak on legs, can not stand steadily, 3 00, condition same, asleep, P 96, 4 00, still asleep, occasionally wakens up, yawns and stretches, will not answer to name, 5 30, condition much the same, still weak on legs and tired, sent to kennel, would not eat, following morning, apparently normal

Cat, wt 3600 grams 1 30 o'clock, 0 15 gram cannabinol given in meat, 2 30, no apparent effect, 3 00, sleeping, 3 45, awakened, rather weak on legs, gait slightly unsteady, 5 00, much worse, distinct inco ordinate gait but does not move about much, has been laid down mostly, with chin on ground, passed a loose motion, would not drink milk although seemed eager for it and only ate two small pieces of meat

Second day, 9 30 oclock, no apparent alteration, still stupid would not come when called, distinct muscular weakness, gait still unsteady pupils somewhat dilated, would not drink milk although a little had been drunk during the night, 2 30, slightly better, gait less unsteady, 5 30, still better, looks up when called, ataxia still present, following morning, seemed quite normal

Rabbit, wt 620 grams, P, 300, R, 76, T, 38 4 C

First day, 2 25 o'clock, 2 4 grams cannabinol given in mucilage, 5 25, has been quiet since drug was given, eyelids partially closed, slightly depressed, doubtful muscular weakness, P 216, R 30, T 34 1 C

Second day, 10 00 o'clock, somewhat worse, head trembles *slightly*, sensation *blunted but kicks on being handled*, has not eaten any food, P 204, R 54, T 31 4 C, placed before fire, 5 45, seems slightly better, P 150, R 30, T 32 7 C

Third day, 12 15 o'clock, condition much the same, trembling of head present, eyes half closed, P 168, R 60, T 29 1 C, 5 30, slightly increased muscular weakness, pupils more dilated, been laid before the fire all day P 204, R 36, T 31 8 C

Fourth day, 11 00 o'clock, no noticeable change, P 138, R 39, T 30 6 C, 6 00, much worse, trembling very marked

Fifth day, 9 00 o'clock, found dead, rigor mortis, cold, afternoon, few small petechia in stomach, otherwise normal, stomach and cecum full of food

Appendix II

This appendix contains a summary of the experiments made on which the foregoing account is based Only the briefest description is given, but some attempt has been made to indicate the comparative value of the experiments The experiments are given in the order they were made The time in parentheses indicates the period after administration of the drug at which the preceding symptom was noted, m, minute, h, hour

EXPERIMENTS ON DOGS

Three dogs were used, at first only two All were fed at 9 o'clock A M Unless otherwise indicated the individual substances were given in gelatine capsules by the mouth

1 May 5, 1897, Airedale terrier, weight 3100 gms, 0 4 g cannabinol *phosphate, slight depression* and sleepiness

2 June 4, 1897, Airedale terrier, 4400 gms, 0 4 g cannabinol phosphate hypodermically, slight depression and sleepiness, fall in pulse rate, longer effect than in last case

3 June 16, 1897, Airdale terrier, 5400 gms, 1 1 g acetyl-cannabinol, sleepiness and depression (30 m), unsteadiness, occasional slight excitement, vomiting (3 h), dilatation of pupils Quite well next morning

4 July 1, 1897, Airedale terrier, 0 5 g cannabinol, slight sleepiness (75 m), stupidity, muscular weakness and unsteadiness, slept most of day, normal next morning, effect more marked than 3

5 July 15, 1897, Airedale terrier, 7520 gms, 1 g charas, tired, yawning (30 m), sleepy, ataxia, etc, pupils somewhat dilated, very much excited (6 h), seemed normal next day, effect somewhat greater than 4

6 July 22, 1897, Airedale terrier, 0 3 c c ⅙ alcoholic extract charas, depression (60 m), temporary excitement (100 m), weakness and unsteadiness (most marked 5 to 6 h), shivering, involuntary micturition, slightly excited next morning, very marked effect

7 July 28, 1897, Airedale terrier, 1 c c ⅙ alcoholic extract charas, lay down (75 m), but excited if played with, sleepiness, unsteadiness, etc, as in 6, but symptoms less severe, normal next morning

8 July 30, 1897, Airedale terrier, 0 9 c c mono terpene *from charas, no effect*

9 Aug 2, 1897, Airedale terrier, 1 1 c c sesqui terpene from charas, no effect

10 Aug 3, 1897, Airedale terrier, 0 5 g cannabinol distilled at 406 degrees C (atmospheric pressure), lay down (30 m), vomited (55 m), depressed, head falling to one side (75 m), afterward sleepiness, unsteadiness, etc, vomited twice (6 h), effect almost as marked as 4

11 Aug 11, 1897, Airedale terrier, 1 c c greenish oil, intermediate between sesqui terpene and cannabinol, unpleasant smell, vomited (45 m), no effect beyond slight depression

12 Oct 19, 1897, Airedale terrier, 9650 gms, , 9 97 g intermediate product between sesqui-terpene and cannabinol (distils below 300 degrees C), slight depression, increased micturition, otherwise normal

13 Fox terrier, 7550 gms, 0 75 g intermediate product between sesqui terpene and cannabinol (distils below 300 degrees C), vomited four times (70 to 100 m), increased micturition, no other effect

14 Oct 27, 1897, Airedale terrier, 10,700 gms, 1 15 g cannabinol, from Merck's cannabinon, depression (40 m), sleepiness, *muscular weakness and unsteadiness, dilated pupils*, vomiting (140 m, 240 m, 255 m), somewhat better, but still severely affected (5½ h), would not touch food, apparently well next morning Most marked effect yet

15 Fox terrier, 7950 gms, 1 04 g cannabinol, from T and H Smith's cannabin Unsteadiness (35 m), which increased, became tired and sleepy but walked about much, vomited (4 ¼h), more unsteady but less depressed than other dog, would not touch food, well next morning

16 Nov 11, 1897, Airedale terrier, 11,250 gms, 0 99 g Merck's cannabinon No effect (30 m), usual symptoms marked (60 m), continued to 180 m, afterward gradual improvement, very much better (6½ h) salivation (2 h, continued 1 h), vomiting (2 h), depression and unsteadiness more marked than 14 but more transient

17 Fox terrier, 8100 gms, 1 04 g ext cannab indic ether (Merck) Slight effect (60 m), unsteadiness (75 m), vomited (3½ h), ataxia main symptom, not much better (6½ h), very little sleep, apparently well next morning, effect about the same as 15

18 Nov 18, 1897, Airedale terrier, 0 19 g ext cannab indic ether (Merck) Depression (45 m), marked unsteadiness (60 m), slight salivation (90 m), sleepy, excited, vomited (3 h), ataxia not much better when left (4 h)

19 Nov 22, 1897, Airedale terrier, 1 95 g cannabinol Slight effect (30 m) unsteadiness, sleepiness, etc, developed, but symptoms not more severe than 18

20 Fox terrier, 1 g ext 'cannab indic (Merck) Commencing weakness (45 m), more marked (60 m), afterward became very severe, incontinence of urine, vomited (130 m, 135 m), trembling from cold, slight improvement (3½ h)

11 Nov 26, 1897, Airedale terrier, 0 19 g cannabinon (Merck) given in a piece of meat Slight effect (2 h) distinct unsteadiness (2½ h), subsequently worse, depressed but not sleepy

22 Fox terrier, 0 55 g extract cannab indic Sicc (Merck) No distinct effect

23 Dec 1, 1897, Airedale terrier, 12,400 gms, 0 15 g alco

hol ether extract charas [previously heated three times with dil H_2SO_4] Sleep main symptom, depression (60 m), unsteadiness (90 m), vomiting (2½h 3½ h), distinct improvement (5 h)

24 Fox terrier 8800 gms , 0 15 g alcohol ether extract charas [previously heated three times with dil H_2SO_4] Slight depression (35 m), slight unsteadiness (75 m), afterward very distinct, slept, salivation (3 h), vomited (4 h), not much improvement (6 h), well next morning

25 Dec 3, 1897, Airedale terrier, 0 15 g alcohol ether extract charas [previovsly heated 14 hours at 260 degrees C] Effects similar to 23, but somewhat less marked and delayed—no obvious action except slight depression and sleepiness for three and one half hours

26 Fox terrier, 0 21 g alcohol ether extract charas [previously heated 14 hours at 260 degrees C] Slight depression (60 m), slight unsteadiness (3 h), much more marked (3½ h), improvement (4½ h)

27 Dec 6, 1897, Airedale terrier, 0 15 g cannabinol rapidly distilled from alcohol ether extract No apparent effect (70 m), later, usual symptoms developed, very distinct unsteadiness

28 Fox terrier, 0 54 g pitch from extract, contains a little cannabinol Slight depression, no other distinctive action

29 Dec 9, 1897, Airedale terrier, 0 15 g distillation fraction previous to cannabinol than latter Depression (30 m), sleepiness, unsteadiness (85 m), but not marked, attention good, excited (5½ h)

30 Fox terrier, 0 21 g distillation fraction previous to cannabinol than latter Mostly laid down at first, slight unsteadiness (2 h), worse (3½ h), slight sleepiness, symptoms not marked

31 Airedale terrier, 0 21 g charas extract, further heated for 60 hours at 220 to 260 degrees C (cp 25) Depression (60 m), unsteadiness (105 m), slept fairly well, much better (5½ h), symptoms more marked than 25 but less than 23

32 Fox terrier, 0 39 g charas extract, further heated for 60 hours at 220 to 260 degrees C (cp 25) Slight depression and unsteadiness (90 m), much more marked (2 h), still severe (5½ h), sleepy, symptoms about equal to 24

33 Dec 28, 1897, Airedale terrier, 1 07 g cannabinol (oldest) Laid down at first, could not be induced to stand long, very slight unsteadiness (3 h) and depression, more severe (5 h) but still fairly well, normal next morning

34 Fox terrier, 1 03 g cannabinol (oldest) Slight depression (60 m), unsteadiness (90 m), still distinct (5 h), depressed following morning

35 Dec 29, 1897, Airedale terrier, 0 92 g cannabinol, distilled from another sample of charas Asleep (55 m), very unsteady (90 m), continued as long as observed (6 h), slept mostly

36 Fox terrier, 0 96 g cannabinol, distilled from another sample of charas Unsteadiness (55 m), became very marked afterward, vomited (65 m and 5 h), slight improvement (6 h)

37 Dec 31, 1897, Airedale terrier, 1 1 g cannabinol (oldest) Slight depression and unsteadiness (70 m), increased later, slept mostly, more marked effect than 33

38 Fox terrier, 0 97 g cannabinol (oldest) Unsteadiness (70 m), which increased, still marked (5½ h), effect greater than 34

39 Jan 3, 1898, Airedale terrier, 0 97 g cannabinol, distilled from another sample of charas No effect (60 m), afterward slept, very slight unsteadiness, (2 h), did not increase, lay down occasionally, slept remainder of day, playful when aroused

40 Fox terrier, 0 95 g cannabinol, distilled from another sample of charas No effect (60 m), very slight unsteadiness (2 h), soon became more marked continued as long as observed, slept somewhat slightly depressed next morning

41 Jan 4, 1898, Airedale terrier, 1 1 g cannabinol, distilled from another sample of charas Slight depression, no marked symptoms

42 Fox terrier, 0 99 g cannabinol, distilled from another sample of charas Depression and unsteadiness (2 h) not very marked, slight depression next morning

43 Jan 5, 1898, Airedale terrier, 12 110 gms 1 03 g cannabinol distilled from another sample of charas Slight depression (60 m), slight unsteadiness, slept mostly, unsteadiness increased, vomited (125 m), awakened to be taken to kennel, very unsteady

44 Fox terrier, 8210 gms , 0 97 g cannabinol, distilled from another sample charas Slight depression and unsteadiness (60 m), became more marked and continued as long as under observation (6½ h), vomited a little (5¼ h), slept partly apparently normal next morning

45 Jan 6, 1898, Airedale terrier 1 01 g cannabinol, distilled from another sample of charas Slight depression (60 m), slept mostly, unsteadiness less marked than 43, apparently well the following morning

46 Fox terrier, 0 97 g cannabinol, distilled from another sample of charas Slight depression (60 m), unsteadiness (70 m), effects similar but ataxia less marked than 44

47 Jan 7, 1898, Airedale terrier, 0 98 g cannabinol, distilled from another sample of charas Slept most of the time, unsteadiness slight

48 Fox terrier, 0 97 g cannabinol, distilled from another sample of charas Depression (30 m), unsteadiness (60 m), became very distinct, laid down mostly, slept partly, very slight depression next morning

49 Jan 8, 1898, Airedale terrier, 1 04 g cannabinol, distilled from another sample of charas Depression (60 m), unsteadiness (90 m), not further observed

50 Fox terrier, 0 99 g cannabinol, distilled from another sample of charas No apparent effect (90 m), not further observed, apparently normal next morning

51 Jan 9, 1898, Airedale terrier, 1 02 g cannabinal, distilled from another sample of charas Not observed

52 Fox terrier, 1 g cannabinol, distilled from another sample of charas Not observed

53 Jan 10, 1898 Airedale terrier, 1 02 g cannabinol, distilled from another sample of charas Depression, distinct ataxia, but not marked, slept most of the time

54 Foxterrier, 1 g cannabinol, distilled from another sample of charas Sleepiness, depression and slight unsteadiness, symptoms less marked than usual, slight depression next morning

55 Jan 11, 1898, Airedale terrier, 0 22 g cannabinol (as 31) No evident effect (60 m), later transient depression, but no ataxia developed Compare with 31

56 Fox terrier, 0 4 g cannabinol (as 31) No effect (60 m), later depression and unsteadiness but less than 32

57 Jan 25, 1898, Airedale terrier, 13,150 gms , 0 21 g cannabinol (as 31) Slight depression (60 m), afterward sleepiness, unsteadiness, excited (5 h)

58 Fox terrier, 7980 gms , 0 42 g cannabinol (as 31) No effect (60 m), later sleepines, slight unsteadiness and depression

59 Feb 11, 1898, Airedale terrier, 0 16 g third fraction cannabinol dissolved in 64 g olive oil Depression (30 m) followed by sleep, no distinct unsteadiness, excited at times, vomited a little (4¼ h), still depressed (5¼ h)

60 Foxterrier, 0 18 g third fraction cannabinol dissolved in 64 g olive oil Depression (35 m) and sleep, no ataxia observed but could not be induced to stand long, still depressed (5 h)

61 Feb 15, 1898, Airedale terrier, 0 16 g second fraction cannabinol in 64 g olive oil Symptoms similar to 59

62 Fox terrier, 0 18 g second fraction cannabinol in 64 g olive oil Slight depression and unsteadiness (2½ h) but less marked than 60, vomited (5 h)

63 Feb 17, 1898, Airedale terrier, 0 16 g first fraction cannabinol in 64 g olive oil Depression somewhat more marked than 61 but no unsteadiness, vomited slightly (3 h)

64 Fox terrier, 0 18 g first fraction cannabinol in 64 g olive oil , Some depression and slight unsteadiness, but doubtful if as marked as 62

65 Feb 22, 1898, Airedale terrier, 0 21 g cannabinol distilled at atmospheric pressure, then heated 5 hours at boiling point Slight depression and sleepiness, no ataxia observed, much better (5½ h)

66 Fox terrier, 0 23 g cannabinol distilled at atmospheric pressure, then heated 5 hours at boiling point Slight depression, no sleep, almost well (5½ h)

67 Feb 24, 1898, Airedale terrier, 2 1 g cannabinol distilled at atmospheric pressure, then heated 5 hours at boiling point Depression and unsteadiness, but symptoms not very marked, slept somewhat, vomited (3½ h., 4½ h), slight improvement (6 h)

68 Fox terrier 2 2 g cannabinol distilled at atmospheric pressure, then heated 5 hours at boiling point Depression and distinct unsteadiness, did not sleep, somewhat better (5½ h)

69 Feb 28, 1898, Fox terrier, 0 43 g acetyl derivation of higher homlogue of cannabinol No effect (2½ h)

70 March 1, 1898 Airedale terrier, 0 2 g cannabinol distilled in vacuo Depression sleep and unsteadiness, more marked than 67, decided improvement (5½ h)

71 Fox terrier 0 22 g cannabinol distilled in vacuo Distinct unsteadiness (60 m) slight depression symptoms similar to 65, much better (5½ h)

72 March 3, 1898, Airedale terrier 0 45 g pitch dissolved in 1 5 g olive oil containing some cannabinol Slight depression and unsteadiness, much better (4½ h)

73 Fox terrier, 1 03 g cannabinol regenerated from old acetyl compound Slight depression and sleepiness, no obvious ataxia

74 March 8, 1898, Airedale terrier, 0 06 g morphin acetate in capsule Vomited frothy mucous like vomit (12 m , 14 m , 17 m), marked depression, much worse than any previous observation, retching (22 m), rapid breathing, quick pulse, head nodding (40 m), salivation (44 m , continued to 120 m), still much depressed, constant moaning, slight myosis (130 m), fall of temperature 1 1 degrees C , sleepiness, slight unsteadiness, improvement (4 h), but still depressed (5½ h)

75 Fox terrier, 0 1 g morphin acetate in capsule No effect (20 m), head nodding (30 m), retching and vomiting of frothy colorless fluid (35 m , 38 m , 50 m , 55 m , 90 m , 105 m), salivation, unsteadiness, depression (130 m), not sleepy, salivation stopped (3¼ h), fall of temperature 2 3 degrees C, could not be induced to stand up, somewhat better (4½ h)

76 March 16, 1898 0 93 g olive oil extract of charas, containing about 2 to 25 g soluble charas products Slight depression and unsteadiness (60 m), sleepiness, vomiting (160 m), ataxia more marked, excited (3½ h), slight improvement (5¾ h)

77 Fox terrier, 1 86 g olive oil extract of charas, containing 4 to 5 g soluble charas products Sleepiness and depression (30 m), distinct unsteadiness (60 m), which became more marked later, vomited (105 m), no obvious improvement (5¾ h)

78 March 18, 1898, Fox terrier, 8840 gms , 0 15 g extract cannab indic (B P) in pills (from London chemist) No effect (90 m), afterward depression and marked ataxia, vomited (2½ h)

79 March 22, 1891, Airedale terrier, 13,580 gms , 1 03 g partly (¾) saponified acetyl derivative of higher homologue of cannabinol No distinct effect

80 Fox terrier, 0 35 g oxycannabinol No obvious effect

81 March 25, 1898, Airedale terrier 1 02 g cannabinol Depression, very distinct unsteadiness (60 m), sleepiness, vomited (2 h , 3¼ h) no distinct improvement (4¼ h)

82 Fox terrier, 0 99 g cannabinol No obvious effect (60 m), depression (75 m), vomiting (105 m,, 115 m , 130 m , 135 m , 255 m), slight unsteadiness (120 m), symptoms increased, no improvement (4½ h)

83 March 30, 1898, Airedale terrier, 1 g chloral hydrate in capsule Sleepiness (15 m), very slight ataxia, somewhat more marked (30 m), fall of temperature 0 4 degrees C , apparently normal (4h)

84 Fox terrier, 1 g chloral hydrate in capsule Sleepiness (15 m), slight muscular weakness but no distinct ataxia, fall of temperature 0 4 degrees C , apparently normal (4 h)

85 April 5, 1898, Airedale terrier, 0 5 g chloralose in capsule Slight depression and sleepiness, transient, fall of temperature 0 5 degrees C

86 Fox terrier, 0 0195 g hyoscine hydrochlorid Uneasiness (30 m) followed by whining, dryness of the tongue, dilatation and less marked reaction of pupils to light, increased rapidity of heart beat (60 m), improvement commenced (2 h), no fall of temperature

87 April 11, 1898, 0 21 g cannabinol Slight depression, sleepiness and unsteadiness, continued 6 hours

88 Fox terrier, 0 2 g cannabinol Slight depression (30 m) but not much affected until (90 m), became very unsteady, sleepiness, incontinence of urine, trembling, vomiting (2 h), fall temp 3 degrees C , most marked effect obtained with this dose

89 English terrier, 7180 gms , 0 15 g cannabinol Less reserved (20 m), slight depression (30 m), sleepiness chief symptom, no obvious ataxia, slight improvement (5 h)

90 April 15, 1898, Airedale terrier, 0 2 g cannabinol kept in sealed tube since Dec 12, 1896 Slight depression and sleepiness (45 m), became much more marked, unsteadiness developed, attention became impaired, vomited (5 h), then improved

91 English terrier, 0 14 g cannabinol, kept in sealed tube since Dec 12, 1896 Slight depression and very distinct unsteadiness (30 m), gradually increased until fell over every few steps, vomited (100 m,, 104 m , 150 m , 200 m), slept a little (3½ h), much better but still markedly depressed (5 h , temperature fell 0 5 degree C, then rose 1 2 degree C

92 Fox terrier, 0 39 g cannabinol through which oxygen has been passed 3 to 4 hours at 150 degrees C Slightly depressed (45 m), very slight unsteadiness (60 m), became somewhat more marked, slight sleepiness, symptoms not severe but temperature fell 1 4 degrees C

93 April 19, 1898, Airedale terrier, 12,840 gms , 0 22 g cannabinol (as in 90), subjected to oxygen for 6 hours at 150 to 160 degrees C Slight depression and sleepiness (30 m), increased, distinct unsteadiness, not much improved (6 h)

94 English terrier, 0 16 g cannabinol (as in 93) Depressed, restless (20 m), sleepy (30 m), slight unsteadiness (40 m), gradually became worse, but not so bad as in 91, vomited (55 m , 115 m), somewhat better (4½ h), but no further improvement (5¾ h)

95 Fox terrier, 8270 gms , 0 21 g cannabinol (as in 90) Slight depression (30 m), but not much affected during first hour, afterward much depressed, slight unsteadiness, no improvement (5¾ h)

96 April 23, 1898 Fox terrier, 0 19 g cannabinol (as in 90) Asleep (30 m), but no marked symptoms for three hours, then slight unsteadiness, which increased, distinct (6¼ h)

97 Airedale terrier, 0 22 g cannabinol through which CO_2 has been passed for 20 hours at 150 to 185 degrees C Slight depression and sleepiness (30 m) became more marked, unsteadiness (60 m), vomited (105 m), afterward improved but still under influence (6¼ h)

98 English terrier, 0 2 g cannabinol through which oxygen has been passed for 20 hours at 150 to 185 degrees C , pitchy appearance Very slight depression and restlessness (30 m) which quickly (1 h) passed away, no ataxia

99 April 27, 1898, English terrier, 7760 gms , 0 2 g tribromcannobinol Depressed (60 m), slight sleepiness but no distinct unsteadiness, apparently normal (4 h)

EXPERIMENTS ON CATS

100 Dec 11, 1895 2500 gms , 3 5 g charas given in mucilage (65 c c), chloroformed during injection Vomited most of the substance (about 50 c c) after recovery from chloroform, depression, weakness, narcosis and death (4 h), no characteristic macroscopic changes

101 June 20, 1896, 2600 gms 0 15 g cannabinol in meat, Sleepiness (90 m'), muscular weakness, marked ataxia, stupidity, commencing improvement (25 h), complete recovery (44 h)

102 May 26, 1896, 2700 gms , same cat, 0 27 cannabinol as pills with starch Quiet (90 m), restlessness and micturition, then salivation (3½ h), muscular weakness and unsteadiness, anorexia, improvement (25 h), almost well (28 h)

103 June 2, 1896, 1 3 g cannabinol in capsules Tired, quiet (60 m), salivation and unsteadiness (100 m), marked ataxia sleepiness, dilated pupils improvement (30 h), almost well (53 h)

EXPERIMENTS ON RABBITS

Substances were made into an emulsion with gum and injected through a catheter into the stomach

104 Nov 1, 1895, 1730 gms , 0 895 g impure (sesqui) terpine Slight excitement

105 Nov 4, 1895, 1730 gms , 0 895 g charas with sodium bicarbonate Slight excitement

106 Nov 5, 1895, 1730 gms 0 876 g petroleum ether extract Slight excitement

107 Dec 17, 1895, 1440 gms , 1 44 g charas No distinct effect

108 Jan 16, 1896, 1500 gms , 3 g petroleum ether extract Became quieter, number of heart beats and respiration, and temperature fell, death occurred on third day

109 June 5, 1896, 1100 gms , 2 2 g cannabinol Depression (60 m), sleepiness, fall in pulse (252 to 100), respiration (142 to 18) and temperature (40 4 to 35 7 degree C), diminished reflexes, improvement (20 h), much better but not normal (29 h)

110 June 10, 1896, 930 gms , 2 2 g charas Quieter (90 m), fall in pulse, respiration and temperature, died on fourth day, cold and marasmus

11 April 5, 1898, 620 gms , 2 3 g cannabinol Depressed, slight muscular weakness, sleepiness, fall in pulse, respiration and temperature, death, 3½ days

PERSONAL EXPERIMENTS

112 Feb 19, 0 1 g cannabinol, taken about 2 45 P M

113 Feb 8, 1896, 0 1 g cannabinol in 0 05 c c alcohol and 20 c c water Slight mental depression

114 March 9, 1895, 0 5 c c monoterpene in 20 c c water No effect

115 March 10, 1896, 0 05 g cannabinol in 0 1 c c alcohol and 20 c c water No distinct effect for 4 hours, then feeling of dryness in mouth, pleasant tingling, slight unsteadiness, happiness, unpleasant visions on closing eyes, time relation not completely lost, feeling of tiredness but no marked tendency to sleep

116 March 28, 1897, 0 05 g cannabinol regenerated from acetyl compound Taken at 8 P M , retired to bed at 10 30 feeling a little tired, slept soundly till 6 P M no distinct effect

117 April 5, 1897, 0 05 g cannabinol regenerated from acetyl compound Taken at 10 30 A M , slightly depressed in afternoon, no other effect

118 April 5, 1897, 0 1 g cannabinol regenerated from acetyl compound Taken at 11 A M, tired and sleepy in afternoon

119 April 10, 1897, 0 2 g cannabinol regenerated from acetyl compound Taken at 1 P M, slight dryness of mouth and paresthesia (160 m) followed by sleepiness, depressed during evening retired at 11 30

120 April 13, 1897, 4 cannabinol tablets (a commercial preparation) = g cannabinol Taken at 5 08 P M, feeling of lightness in head (5 55), dinner 6 00, afterward felt sleepy and slightly intoxicated, time relations altered but not annulled

121 June 7, 1897, 0 2 g cannabinol phosphate Taken at 10 30 P M, Retired at 12 M no evident effect

122 June 9, 1897, 0 4 g cannabinol phosphate No distinct action

123 June 6, 1897, 0 8 g cannabinol phosphate Taken at 10 45 P M, 11 40 very sleepy retired, awoke at 7 20 A M, feeling very sleepy, depressed all the morning

124 March 17, 1898, 0 05 g oily extract of charas, containing 013 g soluble products Dinner at 6 20, taken at 8 00, slight sleepiness and mental exhaustion followed

125 March 18, 1898, 0 105 g oily extract of charas, containing 0 13 g soluble products Taken at 6 25 P M, dinner 6 50, 7 35 peculiar feeling of lightness in head, continued to work, 8 00 rather better, 11 00 retired feeling sleepy

126 March 20, 1898, 0 016 g (¼ grain) ext cannab Ind (B P) pill Tea 5 P M, slight indigestion, pill taken at 7 30, 10 30 no evident effect, 10 35 slight light headedness, warmth of face and mental exhaustion, afterward fell asleep

127 March 21, 1898, 0 14 g partly (¾) saponified acetyl derivative of higher homologue of cannabinol Taken at 5 30 P M, no effect

128 March 22, 1898, 0 1 g third fraction cannabinol Taken at 5 45 P M, dinner 6 30, 8 25 feeling of lightness in head and mental exhaustion, continued working, effect passed off in about 30 m

129 March 23, 1898, 0 1 g second fraction cannabinol Taken at 5 45 P M, dinner 6 45, 7 20 no effect, 9 25 slight dryness of lips and lightness in head, seemed to pass off but worse again at 7 43, happy, have difficulty in reading, sleepy, 10 00 just awakened from a short nap, read a little but soon exhausted, 11 20 retired, 6 45 A M awoke, felt well

130 March 24, 1898, 0 1 g first fraction cannabinol Taken at 5 45 P M, dinner 6 45, 7 45 no effect, 7 50 feeling of slight dryness of lips and lightness of head, 8 00 somewhat more depressed, not working well, 8 45 working better 10 00 still somewhat depressed, 11 30 retired but did not succeed in sleeping for some time

131 March 25, 1898, 0 1 g cannabinol (oldest) Taken at 5 45 P M, dinner at 6 30, 7 30 peculiar light-headedness and dryness of the lips, 7 45 slightly unsteady, parasthesia in head and legs, heaviness of eyelids, no correct estimation of time, 9 30 awakened from short sleep, 10 00 rather better but unable to work, 10 30 retired, somewhat depressed the following morning

132 March 27, 1898, 0 35 g acetyl derivative of higher homologue of cannabinol Taken at 7 30 P M, no effect

133 March 29, 1898, 0 05 g cannabinol pill made 18 months ago Taken at 5 50, dinner at 6 30, 8 30 unsteady symptoms, cannot work, estimation of time not so good, 9 15 worse energyless 10 30 went out for few minutes, improved, 11 00 can read moderately well but eyelids heavy

134 March 30 1898, 0 09 g Merck's cannabinon Taken at 5 45, dinner 6 30, 7 20 lightness in head, loss of time relation, happy, amused, pleasant tingling, etc, sleepy, 8 00 lay down slept till 10 30 then retired, awakened (7 00 A M) feeling dull and depressed, lasted the whole morning

135 April 14, 1898, 0 05 g opium Taken at 9 00 P M 10 00 no obvious action, 10 05 slight heaviness of eyelids, very slightly tired, 10 20 rather better, 11 10 feel somewhat tired, head rather heavy, slight sense of "well being," 12 00 still heaviness of eyes and tiredness of head but have worked fairly well last half hour, not sleepy, retired, soon fell asleep awakened at 7 00 A M feeling well pleasant sense of gravity, which continued most of morning, no constipation

136 April 15, 1898, 0 1 g cannabinol through which oxygen passed 3 to 5 hours at 150 to 160 degrees C Taken at 5 45, dinner at 6 30, 9 15 slight visual indefiniteness, slight and transient paresthesia, afterward felt slight incapacity for work but no marked effects 11 45 not sleepy but retired

137 April 17 1898, 0 05 g cannabinol sealed up since Dec 28, 1896 Tea 4 30, drug taken 5 45, 6 50 slight mental exhaustion and feeling of lightness in head, 7 20 rather sleepy 8 00 trying to read but have little energy for anything, 9 00 condition same, no estimation of time, feeling of warmth in face and head 10 00 sleepy, retired

138 April 21, 1898, 0 065 g same cannabinol treated with oxygen for 20 hours at 150 to 185 degrees C Taken at 5 45, dinner 6 40, 8 05 slight feeling of lightness in head, 9 30 have been reading some time, at first had a little difficulty, now feel quite normal

139 April 22, 1898, 0 05 g same cannabinol treated with CO_2 for 20 hours at 150 to 185 degrees C Taken at 5 50, dinner 6 30, 7 00 commencing light headedness, 8 00 more distinct, a want of energy 9 45 condition same, trying to read, 10 00 not able to do any work, 10 45 no improvement, retired

140 April 24, 1898 0 1 g tribrom cannabinol Taken at 8 00 P M, supper at 8 30, 9 30 slightly sleepy, 11 00 sleepy, no other peculiar effect of cannabinol, retired, slept till 6 45, depressed, suffered from mental exhaustion during three following days

141 May 4, 1898, 0 065 g oxycannabinol (as in 138) dissolved in oil Taken at 5 45, dinner at 6 30 7 15 went out for a walk, 8 15 arrived home slightly tired, peculiar feeling in eyes and head grew slightly worse and continued the whole evening, but was insufficient to prevent me writing, 11 10 retired, slept soundly, 6 40 A M got up, felt sleepy

142 May 6, 1898, 0 1 g charas (best) Taken at 5 45, tea at 4 30, dinner at 7 00 7 00 slight effect in head, worked in garden, felt want of energy, 8 30 influence more marked, agreeable heaviness of eyelids, very little energy, 10 00 retired, condition same, slept well, depressed following morning

143 May 12, 1898, 0 016 g (¼ grain) ext cannab Indic (B P) in pill (cp 126) Taken at 5 50, dinner at 6 30, 7 25 lightness of head, peculiar feeling about eyes, 7 50 pleasant tingling in face and feet, no other marked effect, reading fairly well, 8 40 tingling still present, unable to read with benefit, can not calculate time very well, symptoms continued throughout evening, became sleepy but managed to do some copying, 12 30 retired, 7 30 got up feeling tired but soon well

144 May 19, 1898, 2 c c sesqui terpene taken in weak mucilage Taken at 12 45, lunch 1 10, 1 15 slightly listless and slight heaviness of head, which soon passed away

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THE THERAPEUTICAL ECONOMICS OF OPEN COMPOSITION

Presented to the Section on Materia Medica Pharmacy and Therapeutics, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo
June 7-10 1898

BY ALBERT B PRESCOTT, M D
ANN ARBOR MICH

There is only one restriction upon the character of medicines supplied to the public, to be expected at the hands of the law-makers in the period now before us, namely restriction, with the intent to put a stop to concealment of composition and identity That legal restriction to this effect may be instituted in some of the States at any time, and is likely to become prevalent, appears manifest from the temper of the law-making mind, shown in various ways, especially in the scope of the enactments against adulterations Any alteration of composition is prohibited if it be not made known to the purchaser (or consumer), but is allowed if it be so made known Various irregular admixtures are specifically authorized upon the one condition that they shall be explicitly announced on the label On the other hand, various colorings and facings of food, which are harmless in themselves, are prohibited because they tend to deceive the consumer as to identity or quality of the article The same intent appears in legal rulings for uniform standards of concentration of foods and of medicines, and it appears in the early requirements of poison-labels, lately extended, in some instances, to proprietary mixtures sold without a physician's order and without any account of contents

Granting that some of these prohibitory measures have been worked for as a means of protection to certain industries, and that in other cases the legislation has been proposed by unscrupulous persons, who seek opportunity to levy bribes, etc, it still remains true that the laws already enacted in this direction have been made possible by a prevailing conviction in the minds of common-sense people, holding as they do, the ultimate balance of power in legislation, that it is dangerous to leave covers of concealment over articles of medicine or food in the market The average intelligent citizen, and the average plain man of the law, when the question is put fairly before him, will say without hesitation that medicines sold in packages, without the direction of a physician, ought to be compelled by law to bear a statement of their contents in terms known to science This average man of sense will maintain that it is no affair of the State whether an article of medicine purchased in the market be pharmacopeial or not, made by patented or concealed processes or not, trade-marked by a proprietor or not, monopolized in production or not, but that it does matter to the man who is to take the article of medicine or give it to his child, whether or not he shall be informed what the article really is, in terms such as any physician or pharmacist could define and interpret, and furthermore, that the right of the man to this information might well be made an affair of the State In fact, the layman is likely to enforce a classification of therapeutic agents, more simple than any of the systems known in pharmacology, a mere division of medicaments into the knowns and the unknowns And legislative enactment is more than liable to separate the one of these divisions from the other "as a shepherd divideth his sheep from the goats," when these matters are brought into judgment

With this outlook, therefore, the concern of this brief paper is not one of professional ethics, but rather one of social economics Neither the physician nor the pharmacist has any economic interest in the use of secret remedies, or any reason to delay prohibitory measures against secrecy of composition The custom of medication by remedies named from the diseases they are alleged to cure is a custom that has no actual use for pharmacists or physicians at all

The physician within whose function it falls to select remedies and confine their application to certain needed results, may, in his discretion, either countenance or discountenance secrecy of composition He is liable to think little of his responsibility in this matter, because while he is acting as an expert for his patient the latter has no need to be informed of the contents of medicinal mixtures For his own judgment, the physician may believe himself able, in some cases, to arrive at the character of a medicine without a statement of its contents, and may avail himself of the convenience of a ready-made secret mixture, which thenceforth holds the benefit of his approval

The pharmacist, on the contrary, is not to judge of the selection and application of remedies of his own knowledge as an expert, neither is he to question his patron's choice among various systems of medication So long as articles of concealed composition are not made contraband in law, it is difficult for the pharmacist to refuse to furnish them, especially difficult when they are directed by physicians He can only do so upon the ground that such articles can not be made subject to record, as to the identity and quantity of the distinct agents they contain, therefore, he can have no check upon them and will not supply them

While secret medicines are tolerated by the laws, the physician or the pharmacist has but limited responsibility for their use, little influence as to their employment one way or the other If he do not go beyond his proper province, the secrecy of remedies is not of his doing, nor can he stop the use of these articles by the people. But both the physician and the pharmacist have marked influence, as authorities in regard to medicines in use, and have influence upon law-makers as to legislation in the question of open composition by the demand of the law

A policy of prudence, and of courage as well, with a careful study of the bearings of every legal provision proposed on the part of the staunch men of medicine and of pharmacy, can do most effective service in behalf of better economies in medication

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THE MODERN INTESTINAL ANTISEPTICS AND ASTRINGENTS

Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo , June 7-10 1898

BY WM FANKHAUSER, M D

NEW YORK

The last decade has been very fruitful as regards the introduction of intestinal antiseptics and astringents To comprehensively describe each and every one introduced during this period, would be beyond the scope of a paper the reading of which will not prove tiresome to the listeners I will therefore confine myself to those which have made their first appearance during the past five or six years The modern intestinal antiseptics and astringents belong chiefly to one of two classes of preparations derivatives of tannic acid, or salts of bismuth The former will be alluded to first, the articles being described in the order of their introduction into the materia medica

Among internal astringents tannic acid has long occupied a prominent position, but it has a number of serious drawbacks, chief among which is that it acts undesirably on the mucosæ of the mouth and stomach, where the larger portion of its effect is expended before the remedy reaches the intestines Prolonged administration of tannic acid, furthermore, is known to be productive of gastric disturbances—anorexia, pain, nausea, and even vomiting With a view to obviating these disadvantages, experiments have been made with various derivatives of tannic acid, resulting in the production of a number of eligible compounds

Tannin albuminate was the first preparation introduced, which has a less disagreeable taste than the acid itself and acts less vigorously on the stomach, but, owing to the fact that it is largely absorbed in the latter organ, its astringent action becomes to a great extent lost to the intestine, and for this reason the remedy has been practically abandoned as an antidiarrheal The dose in which it was given is from 5 to 20 grains, in cachets

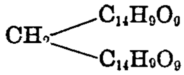
Tannigen was the next preparation brought forward which, with a few of its congeners since introduced, is not acted upon to any great extent in the stomach, and manifests its astringent action chiefly on reaching the slightly alkaline (in health, but in morbid conditions, vastly increased alkaline) secretions of the intestine, where a gradual and equable decomposition ensues and continues to the end of the gut Tannigen was introduced by Prof Hans Meyer of the University of Marburg, Germany, in the fall of 1894 (see *Deutsche Med Woch*, 1894, No 31) It is known, chemically, as diacetyltannin, and has the formula $C_{14}H_8(CH_3CO_2)O_9$ Its formation is based on the replacement of two hydrogen atoms of tannic acid by two molecules of acetyl It occurs as a light-gray, slightly hygroscopic, practically odorless powder, of a chalky and faintly astringent taste, soluble in alcohol, and in dilute solutions of the alkalies or their phosphates and carbonates, insoluble in cold water and in diluted acids

The first to put tannigen to a clinical test was Prof F Muller of Marburg (*Deutsche Med Woch*, 1894, No 31) He found it specially serviceable in chronic intestinal catarrhs, in which improvement was noted, usually in a short time, from doses of from 3 to 8 grains three times daily The next report was from Carl Künkler of Bonn (*Allgemein Med Central-Zeitung*, 1894, Nos 13 and 14), who used tannigen in some forty cases, covering chiefly chronic diarrheas of various origins and occurring mostly in children To adults he gave 3 to 8 grains, to children 1½ to 3 grains, three or four times a day The results as a rule were highly satisfactory, and in some cases a prompt cure was effected It is advised to continue the administration of the tannigen for some time after the disappearance of the catarrhal symptoms, to guard against relapses D De Buck of Ghent reports (*Belgique Médicale*, 1895, No 37) prompt results from tannigen in acute inflammatory conditions of the intestine, and a beneficial though less speedy effect upon chronic catarrhs Prof Escherich, of the Pediatric Clinic of the University of Graz, gives a detailed report (*Ther a Woch*, March 9, 1896) of his experience with tannigen His results are described as excellent in subacute and chronic intestinal catarrhs of children, characterized by mucous stools In the former category of cases often as early as on the second day of treatment, there was a marked diminution in the quantity of the mucus in the stools, and in a few, after several days the evacuations assumed a normal character In the chronic cases no such remarkable results were obtained, yet, in the commencement of the treatment at least, the decrease of mucus and the dry character of the passages was always noted It goes without saying, that an appropriate dietary was strictly observed in every instance In acute intestinal catarrh, with watery, projectile stools, as well as in the beginning of follicular enteritis, the results were inferior to those of calomel and bismuth subnitrate As regards administration, Escherich prescribed 4 grains in infants up to 1¼ years, and 8 grains to older children, from four to six times a day, mixed with the food Injurious after-effects, or disturbance of the appetite or digestion, were never observed Numerous additional reports are extant, chief among them being those of Richard Drews of Hamburg (*Allgemeine Med Central-Zeitung*, 1895, Nos 35 and 36), Professor Biedert of Hagenau (*Therapeutische Woch*, 1896, No 12), W Kölzer (*Jahrbuch für Kinderheilkunde*, 1898, pages 280-370), and the American physicians, G A Hewitt of Philadelphia (*Medical Bulletin*, 1896, No 1), E W Bing of Chester, Pa (*Medical Times and Register*, Sept 22, 1893), and H A Griffin and V H Norrie (*Daily Lancet*, March 30, 1896)

The writer has found tannigen a mild yet efficient antidiarrheal in catarrhal enteritis and in catarrh of the large intestine, particularly when characterized by copious mucous dejections As a rule, untoward effects were not observed At times tannigen leaves a strongly astringent sensation in the mouth, which renders it impossible to administer the remedy to some children, then again, it is occasionally vomited by sensitive children The simultaneous administration of pepsin often corrects this In the writer's opinion tannigen is contraindicated in pronounced inflammatory diseases of the intestine accompanied by profuse effusion of serum into it In cases of the secretion of a thin, serous fluid, such as results from acute irritation of the upper part of the intestinal canal, it is of little service It is particularly the lower portion of the intestinal canal that reacts well to tannigen The amount of mucus is diminished at once, and its over-production does not recur unless the use of the remedy is discontinued too soon As a consequence, not only are the irritated state of the mucous membrane and the particular cause of the disease overcome, but the loss of the nitrogenous material and the heightened peristalsis are reduced, and the absorption of water and nutrient matter in the large intestine is promoted But this is not all that tannigen and its congener, tannalbin, accomplishes In spite of the paucity of clinical evidence, it can hardly be denied that tannin has a certain disinfectant power by impeding bacterial development, as with alkaloids, so with numerous bacterial poisons, such as toxalbumins, it unites to form insoluble, and consequently non-poisonous, compounds, as is shown in Cantani's treatment of cholera Tannigen occasionally colors the stools black

As regards dosage, large quantities are preferable and more reliable, for children under one year of age, up to 4 grains every two hours for a few doses and then from four to six times a day, for older children, from 5 to ten grains, and for adults 15 grains, or even a few 30-grain doses followed by 15-grain ones every four hours Tannigen has a tendency to "cake", hence it is best to dispense it with, say 1/10 its weight of silica or some other insoluble and inert substance In painful conditions 1 grain of powdered opium, or, in cases where this drug is illy borne, ¼ grain of codein, is a necessary addition, for tannigen and its congeners of the tannin series are not capable of arresting severe pain or violent tenesmus It is best taken, triturated as above indicated, in a little glycerated, freshly boiled water

Tannoform was the next tannin derivative brought forward, a condensation product of formaldehyde and nutgall tannin Chemically it is methylene digallate, and its composition is represented by the formula



$$CH_2 \begin{cases} C_{14}H_9O_9 \\ C_{14}H_9O_9 \end{cases}$$

It occurs as a pinkish, light, odorless, tasteless powder, insoluble in water or acidulated fluids, but soluble in alcohol, ammonia water, and sodium hydroxide or sodium-carbonate solution

Tannoform was introduced by Prof J von Mering (*American Medico Surgical Bulletin*, 1896, p 137) as a remedy for hyperidrosis, bromidrosis and "weeping" eczema The physiologic fact that the preparation is but slightly attacked by the gastric juice and decomposed into its components chiefly on reaching the intestine, led to its employment also internally, as an intestinal disinfectant and astringent Von Mering found tannoform quite effective, particularly in chronic catarrhs and De Buck and De Moor substantially confirmed his results (*Belgique Médicale*, 1896, No 33) These clinicians employed doses of 8 grains three or four times a day, to children 4 grains was given with an equal quantity of peppermint-oil-sugar, and taken with tea, milk or chocolate

Though recommended by the above-quoted authorities in chronic intestinal catarrhs, tannoform does not appear to have been employed to any great extent in the capacity of an anti-diarrheal The next report on it appeared first in the summer of 1897 It was by M Eberson of Tarnow, who used the remedy with success in 15 cases of chronic intestinal catarrh (*Aerztlicher Centralanzeiger*, 1897, No 26) Carl Sziklai (*Therapeutische Woch*, 1897, No 41) reported having used tannoform in 40 cases of intestinal catarrh in children, with failure in but one case Considerably smaller doses were employed than von Mering had advised, 1/6 to 3/8 grain every two hours The only other clinical report extant is by J Braun of Mokrin, who detailed his results in acute diarrheas of children, and in simple and tuberculous diarrheas of adults (*Therapeutische Woch*, 1897 No 46) In the former cases he gave 8 grains every two hours until relieved, and to adults 15 grains was administered four or five times a day Braun highly lauds the action of the remedy, without referring to any untoward accessory influence of the medication Prof R W Wilcox stated editorially in a recent issue of the *American Journal of the Medical Sciences* that his observations seem to indicate that tannoform is too irritating for internal use, and this opinion the writer shares Tannoform appears to decompose partly in the stomach, in pathologic conditions of the gastro intestinal tract, and the liberated formaldehyde in its nascent state is calculated to irritate the gastric mucosa Tannoform had best be confined to external application, and the writer of this paper can warmly recommend it as an efficacious antihidrotic and siccative antiseptic

Tannalbin was the next tannic acid compound introduced as intestinal astringent It is tannin albuminate rendered insoluble in the gastric juice by heating it at a temperature of about 120 degrees C, and washing the resulting product with diluted hydrochloric acid and with alcohol It occurs as a light-brown, odorless, tasteless powder, containing approximately 50 per cent of tannin It is insoluble in water or acidulated fluids, but soluble in alkaline solutions Of the various newer intestinal astringents tannalbin has been the most extensively reported on, and appears to be the ideal form of tannic acid for internal administration in inflammatory affections of the intestines The advantages claimed for it over uncombined tannic acid by the first investigators of its physiologic action—insoluble in the gastric juice of normal stomachs, and consequently causing no disturbance of that organ, slowly and equably decomposed by the intestinal fluids, thus manifesting its astringent action gently but persistently throughout the entire intestinal canal—seem to have been fully confirmed by extensive clinical experience, and the writer can unqualifiedly recommend tannalbin in all cases of intestinal trouble where tannic acid is indicated and calculated to be of benefit Tannalbin was introduced into therapy by Prof R Gottlieb of the Pharmacologic Institute of the University of Heidelberg, in the spring of 1896, and first employed clinically by R Von Engel, senior physician of the Moravian Provincial Hospital in Brünn, Austria, who reported his results in 40 cases in the *Deutsche Med Woch*, 1896, No 11 An excellent effect was observed in the entire group of chronic intestinal affections, and the results obtained in simple catarrhs of two to seven weeks' standing are designated as surprising In such cases from 45 to 60 grains per day for a day or two, usually sufficed to check the diarrhea, after which daily doses of from 15 to 30 grains for a few days or weeks longer effected a permanent cure Of 12 patients with phthisis 11 were cured of the diarrheal complication, and of 10 cases of acute intestinal catarrh 9 were promptly checked by tannalbin In profuse acute diarrheas of a functional or catarrhal nature the remedy was given every two hours, or even every hour for three or four doses As a rule the treatment was continued for from two to four days, when the desired effect was usually attained In toxic or infectious enteritis, in dysentery and in cholera morbus, it had better be avoided Von Engel never observed disagreeable or injurious by effects, not even on continued large dosing for weeks nor did he notice any aversion to taking the tannalbin The form of exhibition was in powder without any vehicle The second clinical report on tannalbin is by Prof O Vierordt of the Medical Polyclinic of the University of Heidelberg, who used the remedy both in children and in adults in some 30 cases (*Deutsche Med Woch*, 1896, No 25) It was always gladly taken, and no effect on the tongue, the stomach, or the appetite occurred even on long continued dosage of 2½ drs daily Those cases were primarily selected which had not proven amenable to dietetic measures nor to the usual medication Most of these were subacute and chronic enteritic catarrhs, 5 were of tuberculosis, 6 of renal origin, 1 from pelvic sarcoma and 5 of acute enteritis In all these various diarrheas thorough and prompt antidiarrheal action was manifested by the tannalbin Its markedly distinctive feature, as compared with the older intestinal astringents, was found to be its equable and uniform action throughout the entire gut In view of his experience, Vierordt places tannalbin unconditionally ahead of all preparations, tannigen included As regards dosage, he recommends starting, in adults with from 8 to 15 grains four times a day, and to increase the dose rapidly after the first twenty-four hours if the action be found insufficient up to, say 30 grains per dose and 2½ drams per day When a sufficient action has been sustained uniformly for a number of days in simple enteric catarrhs, the daily amount may be gradually reduced, if the condition continues satisfactory, until nil is reached For children beyond the first year the smallest initial dose should amount to 15 grains a day Vierordt administered the tannalbin either between or immediately after meals, with a spoonful of sterilized water or milk, or with gruel T G Rey of Aachen, Prussia, is a strong believer in the powers of tannalbin (*Deutsche Med Woch*, xxxiii, page 46) He used it in 68 cases of diarrhea chiefly in children under two years of age, among them 33 cases of cholera infantum and 12 of acute catarrh of the large intestines In all the former the tannalbin was combined with frequent small doses of calomel (1/20 to 1/12 grain every two hours), to intensify the deficient antiseptic action of the tannalbin up to the requisite point and with this combination it is claimed every case of gastro enteric trouble in nursing infants can be positively cured, excepting, perhaps, certain peculiarly fulgurant attacks of cholera infantum and the tuberculous form of chronic enteritis A peculiar beneficial action of tannalbin on the stomach has been observed by Prof W H Porter (*Post-Graduate*, Nov ,1897) Its free administration will often arrest the superabundant outpouring of mucus, precipitating the mucus and thus destroying one of the favorable media for the growth of micro-organisms In this manner it very decidedly aids in overcoming the so-called hyperacidity of the contents of the stomach Among others who have reported on tannalbin the following may be mentioned K Holzapfel, of the Medical Polyclinic of the University of Strassburg (*Deutsche Med Woch*, 1896, No 50), Scognamiglio of Naples (*Wiener Medicinische Blatter*, 1897, No 2), Joseph Friedjung of the Pediatric Clinic of the University of Berlin (*Jahrbuch fur Kinderheilkunde*, xlv, No 1), J Czemetschka of the Medical Clinic of the University of Prague (*Wiener Med Presse*, 1897, No 22), Hans O Wyss, of the Children's Hospital of Hottingen, Zürich (*Correspondenzblatt fur Schweizer Ärzte*, 1897, No 15), L Roemheld, of the Pediatric Clinic of Professor Vierordt at the University of Heidelberg (*Munchener Medicinische Wochenschrift*), W Koelzer, of Professor Heubner's Clinic at the University of Berlin (*Jahrbuch fur Kinderheilkunde*, 1898, p 280), and the American physicians, Leonard Weber of New York (*Post-Graduate*, Nov , 1897), Max Einhorn of New York (*ibid*), T V Smith of Westfield, N J , and Hermann T Wolff of Marion, Texas

Tannalbin has met with more than ordinary attention and favor by the medical profession The writer has found tannalbin particularly efficacious in mucous catarrhs of the intestinal tract, and chronic catarrhs of the large intestines yield very promptly indeed Like tannigen, in acute infectious diarrheas, accompanied by profuse effusion of serum and severe tenesmus, tannalbin is likely not to prove effective alone, for it has not pronounced disinfectant power, nor has it, as is to be expected, any distinctly anodyne effect, in painful conditions, therefore, some codein or other opiate has to be associated with it Tannalbin, owing to its perfect insipidity, is willingly taken by the most sensitive patients, and in the writer's experience has never been productive of vomiting Tannigen, on the other hand, while practically equally efficacious, not infrequently leaves a strongly astringent sensation in the mouth, which renders it impossible to administer it to some children, and occasionally it provokes vomiting, an effect never observed by the writer to follow the administration of tannalbin It appears that tannigen is decomposed to an appreciable extent in the stomach, and in this way is quite apt, on being pushed or long continued, to induce gastric disturbance In certain chronic conditions the writer has given tannalbin daily for weeks without causing, as far as could be observed, any digestive derangement In infectious diarrheas of children, in which tannalbin or tannigen alone is not effective, good results can be obtained by a combination with the purely disinfectant remedies, betanaphthol benzoate (benzonaphthol) or calomel, the former in doses of from 1/20 to 1/10 grain As regards administration, tannalbin is best taken with glycerinated sterilized water

Tannopine, the newest tannin compound introduced as an intestinal astringent, is what was first called tannon It is a condensation product of three molecules of tannic acid and one molecule of hexamethylenetetramine (known by the various trade names "urotropin," ' formin," etc) It contains 87 per cent of tannin It is described as a grayish-brown, odorless, tasteless, non-hygroscopic powder, insoluble in the ordinary solvents and diluted acids, and slowly soluble in alkaline fluids, analogously to tannalbin The only clinical report thus far met by the writer is by E Schreiber, of Professor Ebstein's clinic in Gottingen (*Pharmaceutische Centralhalle*, 1897, p 839) In doses of 15 grains for adults and from 3 to 8 grains for children, three or four times a day, tannopin never produced untoward effects Good results were obtained specially in tuberculous enteritis, and next in order in subacute and chronic non-tuberculous intestinal inflammations, both in adults and in children Tannopin is decomposed more slowly by the intestinal fluids than is tannalbin or tannigen, and hence, it is claimed, exerts a more prolonged astringent effect on the intestinal mucosa At the time of this writing tannopin was not as yet obtainable on the American market

Tribenzoylgallic acid is probably the latest addition, in the line of purely organic compounds, to the ever-growing list of intestinal astringents It was introduced by W Cohnstein of Berlin, and has thus far been reported on only by W Koelzer (*Jahrbuch fur Kinderheilkunde*, 1898, pp 280 307), of Professor Huebner's Pediatric Clinic connected with the University of Berlin The new substance is described as colorless (or white), odorless and tasteless, insoluble in water, but readily soluble in hot alcohol or in alkaline solutions It appears to be unaffected by keeping or by the saliva or gastric juice, for it reaches the intestines, when the stomach is in a normal condition, practically undecomposed, and is there disassociated, gallic acid being liberated and exerting its specific astringent action, while the rest remains physiologically inert According to Koelzer, tribenzoylgallic acid acts similarly to tannalbin and tannigen, but in a lesser degree He administered the remedy to infants in doses of 15 grains four times a day, and at times he even gave single doses of 30 grains repeated once or twice at two hour intervals The writer has not had an opportunity to test tribenzoylgallic acid, as the remedy was not obtainable on the American market at the time of writing, and the chemico physical description above given is taken from the preliminary announcement of the manufacturer This ends the list of the tannin derivatives introduced as intestinal astringents and antiseptics during the last decade

Bismuth subgallate, also known as "dermatol,' is the first of the various bismuth compounds to receive our attention It is a basic gallate of bismuth of the formula $Bi(OH)_2 C_7H_5O_5$ It occurs as a canary-yellow, heavy, odorless, non-hygroscopic, almost tasteless powder, containing 55 per cent of bismuth oxid It is insoluble in the ordinary solvents, but dissolves in sodium hydrate solution without separation of bismuth hydrate, which behavior distinguishes it from other bismuth salts Bismuth subgallate does conglutinate and get lumpy, and is indifferent to light and air Though first described in 1841, bismuth subgallate was not employed therapeutically until 1891, when Heinz and Liebrecht (*Berliner Klin Woch* , 1891, No 24) recommended it as a substitute for iodoform externally, possessing the antiseptic and siccative action of the bismuth salts and the reducing action of gallic acid Internally it was used first by Prof C Colosanti of the Unive Rc nd U Dutto, Assistant of the Ph In Rome, who employed it in diarrhea, as well as in a number of cases of dysentery and typhoid fever (*La Reforma Medica*, 1891, Nov 30) Although these investigators reported very favorably on the efficacy of the remedy, the internal employment of bismuth subgallate has not become so extended or general as its virtues would appear to bespeak for it Perlmutter recently published a paper in the *Münchener Med Wochenschrift* on its employment in gastric ulcer and diarrhea, his observations being made on an extended series of cases and being inspired by Professor Moritz, who recommended it to his notice In diarrhea of phthisical subjects and in acute and chronic enteritis, he found it most valuable, all cases of this kind benefiting by its use, and the result being by no means only of a transient character The bismuth subgallate was given in doses of from 8 to 30 grains, in water, twice daily It is non-poisonous and produces no by-effects except a tendency toward constipation, which, however, can be readily combated by means of glycerin enemata The stools will be dark, and care must be taken not to mistake them for those colored by blood A Flint (*New York Medical Journal*, 1893, No 776) used bismuth subgallate in fermentative dyspepsia, in doses of 5 grains after meals

The writer's results agree perfectly with those of Perlmutter He has found it an excellent remedy in phthisical diarrhea, and in acute serous diarrhea of an inflammatory nature In the former cases he administers 15-grain doses three times a day, in cachets, followed by a good swallow of water In the acute diarrheas the same quantity is given every two hours until its effects become manifest, when the remedy is discontinued As a rule it does its work in a few hours, and rarely are more than three doses required In cases of severe pain or tenesmus, the writer gives with the bismuth subgallate 1 or 1½ grain of powdered opium Bismuth subgallate is undoubtedly a powerful intestinal siccative, in consequence of which it should not be administered, in acute cases, after it has reduced the frequency of the movements and altered their consistence, its action will continue for some hours after the discontinuance of the medication As a disinfectant in infectious diarrhea it is inferior to many other remedies, but as a simple astringent in phthisical diarrhea and in acute gastro-intestinal disturbances attended with profuse serous discharges the writer has found bismuth subgallate one of the best remedies at the disposal of the physician

Phenol-bismuth was the next bismuth compound brought forward, or, more properly, bismuth carbolate, of the formula $Bi(OH)_2 C_6H_5O$ It is a whitish or gray, neutral, almost odorless and tasteless, insoluble powder, containing 80 per cent of bismuth oxid and 20 per cent of phenol It was introduced by M F A Jasenski, of Professor Nencki's laboratory at the St Petersburg Institute for Experimental Medicine, who found (*Archives des Sciences Biologiques*, ii, No 2), that it is slowly decomposed by the gastric juice into phenol and bismuth oxid, the larger portion, however, which has not sufficient time to be decomposed in the stomach, passes into the intestines, where the conditions are more favorable for its complete decomposition (especially in the presence of the pancreatic juice) In spite of the well-known toxic property of phenol, phenol-bismuth did not have the least injurious effect, although administered for three weeks in daily doses of 75 grains In acute proctitis, enemas of 30 grains in two fluid ounces of water, once daily brought about a cure in two days In a number of cases of chronic intestinal catarrh phenol-bismuth had a beneficial effect Prof A W Wilcox reports (*Post-Graduate*, May, 1895) that in the various forms of chronic gastritis characterized by pyrosis, pica or boulimia, bismuth carbolate is an excellent remedy, and in gastric cancer, while bismuth subnitrate may mechanically protect the ulcerated surface, phenol-bismuth will diminish the accompanying fermentation and decomposition

The writer has obtained good results from bismuth carbolate in fermentative conditions of the gastro-intestinal tract accompanied with diarrhea, and in chronic gastro-intestinal catarrh, but he does not regard the remedy as in any manner superior to the older remedies, such as bismuth salicylate, betol and benzonaphthol The dose is 15 grains several times a day, in cachets, followed by a draught of liquid

Bismuth naphtholate was the next claimant for favor, also known as "orphol" and naphthol-bismuth This has the formula $2[Bi(C_{10}H_7O)_3]+Bi_2O_3$, and occurs as a neutral, brownish, almost odorless and well-nigh tasteless powder when recently made, and consisting of 80 per cent of bismuth oxid in chemic combination with beta naphthol It is insoluble in the ordinary solvents, and with age it is prone to darken and develop the odor and taste of naphthol It is partly decomposed in the stomach, the major portion, however, passes unchanged into the intestines, where the secretions furnish the conditions necessary for its complete dissociation Some of the naphthol is eliminated with the urine, while the greater portion of it is eliminated with the feces, the bismuth oxid being excreted with the stools, as is the case with the other bismuth compounds The first clinical reports on bismuth naphtholate are by Schubenke, Blackstein and Petkewitsch, and appeared in *Vratch*, 1892, Nos 41 and 51 They used the remedy in cases of ordinary bacillary diarrhea and of choleraic diarrhea, in daily doses of 15 to 30 grains, with good results Then came M F A Jasenski and Professor Von Nencki of St Petersburg (*Archives des Sciences Biologiques*, ii, No 2) They employed the remedy in daily doses of from 45 to 60 grains, in a number of cases of chronic intestinal catarrh and in diarrhea accompanying cirrhosis of the liver The results obtained are designated as better than those obtained with the older preparations of bismuth Prof Ferdinand Hueppe of the German University of Prague characterizes (*Berliner Klin Woch*, 1893, No 7) bismuth naphtholate as a most powerful yet non-toxic antiseptic Among other foreign physicians who have employed bismuth naphtholate with good effect should be mentioned Edmund Chaumier of Touraine, Tours, France, who reported his experience at the Congress for Internal Medicine, held at Bordeaux, August, 1895 The first American physician reporting on the use of this new bismuth salt is Prof R W Wilcox, who read a paper before the Clinical Society of the New York Post-Graduate Medical School and Hospital, Dec 15, 1894 He related the results he had obtained in some one hundred cases He believes that better results have been obtained, and in a shorter period of time, than could have been expected with the inorganic bismuth compounds In typhoid fever, he says, there is probably no remedy so generally useful as an intestinal antiseptic as bismuth naphtholate, provided it is used in the early stage of the disease, and in phthisical diarrhea a rapid increase in the dose to 60 grains or even 120 grains per day, has given brilliant results Louis Fischer (*Medical Record*, July 13, 1896) gives decided preference to bismuth naphtholate in summer complaint in children To a child one year old 5 grains may be given every two, three or four hours, with a little boiled (sterilized) water, and preferably when the stomach is quite free from food If there is persistent vomiting he gives the remedy per rectum in suppositories, double the dose per mouth being employed for each Hugo Engel of Philadelphia has used (*New York Medical Journal*, March 30, 1895) bismuth naphtholate in a considerable number of cases of fermentation and bacterial diarrhea arising from the presence of infectious material in the alimentary canal, and considers it a most reliable intestinal disinfectant and astringent in these instances

The writer has employed bismuth naphtholate in various disorders of the gastro-intestinal tract of bacterial origin Very good results were obtained in chronic catarrhal gastritis characterized by sour stomach, eructations, pyrosis and regurgitations of acid fluids Five grain doses were administered three times a day in capsules or with syrup, and followed by a draught of hot water Ordinary fermentative diarrheas were also promptly relieved by doses of from 5 to 8 grains every four hours As already stated, bismuth naphtholate with age assumes a dark-brown color and develops a naphthol odor and taste, referable to partial decomposition, and in this condition it is apt to be rejected by the stomach A preparation of a pronounced naphthol odor and taste should not be employed

Tribromphenol-bismuth, known chemically also as bismuth tribromphenate or bismuth tribromcarbolate, and styled by the manufacturer "xeroform," was the next introduction in the field of intestinal astringents and antiseptics It has the formula $(C_6H_2Br_3O)_2Bi$-$OH+Bi_2O_3$, and it occurs as a yellow or greenish-yellow, nearly odorless, neutral powder, of a faintly sweetish taste, containing 50 per cent each of tribromphenol and of bismuth oxid In the stomach it undergoes but little change, while in the intestinal canal it is gradually decomposed into tribromphenol, which possesses great disinfectant power, and bismuth oxid, which unites largely with the ptomains or their toxins, forming with them insoluble substances A small portion of the tribromphenol is eliminated with the urine, and the bismuth oxid is removed with the feces as sulphide Tribromphenol-bismuth was first recommended by Prof F Hueppe of the German University at Prague as a remedy in Asiatic cholera (*Berliner Klin Woch*, 1893, No 7) He employed doses of 8 grains every two hours, after an initial dose of 15 grains, two to four doses of 8 grains being given at night Hueppe contends that with this treatment the diarrhea improves by the removal of its cause, that is, the products of the comma bacillus are in some way neutralized by the remedy If we accept his statements, tribromphenol-bismuth is an excellent and non-toxic disinfectant in cholera Prof R W Wilcox read a paper on the preparations of bismuth, before the Clinical Society of the New York Post-Graduate Medical School and Hospital on Dec 15, 1894 The author expressed the opinion that tribromphenol bismuth possesses marked antiseptic power, as well as the soothing effect common to bismuth compounds, and advocated its use in fermentative diarrheas L Rynders of the Medical Faculty of Nancy, concludes, from his investigations of xeroform, that this is an excellent gastro intestinal disinfectant, and calls special attention to its deodorizing power on the stools of the typhoid patients (*Aerztliche Rundschau*, vii, p 694), and Bouchard confirms this opinion fully (*Wiener Med Blatter*, 1897, p 807)

The writer can commend tribromphenol-bismuth as an antizymotic and disinfectant in gastro-intestinal fermentation and in typhoid diarrhea, in the latter cases it exerts a decided deodorizing effect on the stools Toxic effects from ordinary medicinal doses are not likely to be observed, but the remedy often produces nausea and eructations if administered in wafers, powders, or capsules It is, therefore, best given in an acacia emulsion As regards dosage, in simple fermentative conditions, 8 grains every four hours suffice, but where pronounced disinfection of the intestinal tract is indicated, it is advisable to give an initial dose of 15 grains and follow with three or four doses of 8 grains at two-hour intervals and then to continue this dose, administered every four hours, until the desired effect is produced From 30 to 45 grains a day are ordinarily sufficient for a thorough asepsis of the intestinal canal in an adult

Bismuth phosphate, soluble, is another bismuth compound of recent introduction It contains 20 per cent of bismuth oxid, and is soluble in about three parts water G Leiser, O Doerffler and C Soehle (*Deutsche Aerzte-Zeitung*, 1896, No 3) employed this remedy in acute diarrheas, intestinal tuberculosis, and typhoid fever of adults, as well as in choleraic diarrheas of children In the latter, the following formula was resorted to

Bismuth phos , soluble	gm 1 5 to 2	gr 23 to 30
Distilled water	gm 90	fl℥ 3
Syrup poppies	gm 100	fl℥ 3½

Teaspoonful every half hour or hour

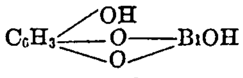
In acute diarrhea of adults the following mixture is prescribed

Bismuth phos , soluble	gm 3 to 4	gr 45 to 60
Distilled water	gm 180	fl℥ 6
Syrup fennel	gm 200	fl℥ 7

Hourly, half to one tablespoonful

No further clinical reports than the preceding are extant

Bismuth pyrogallate—pyrogallol-bismuth or "helcosol"—will be dismissed with a brief description of its physical properties, as it does not appear to have been tested clinically as yet It has the composition shown by the formula



$$C_6H_3\begin{cases}OH\\O\text{—}BiOH\\O\end{cases}$$

It occurs as a greenish-brown, amorphous, odorless, tasteless powder, insoluble in water or alcohol, and but sparingly soluble in 0 3 per cent solution of hydrochloric acid Vittorio's physiologic experiments (*Pharmaceutische Zeitung*, 1894, p 639) seem to prove that the remedy is non-poisonous, even when ingested in large doses, and that it appears to be indicated specially in infectious intestinal diseases

Bismal—designated chemically as bismuth methylenedigallate — was the next bismuth compound brought forward It has the formula $4(C\ H\ O\ )+3Bi(OH)_3$, and it occurs as a grayish, voluminous powder, soluble in water or acidulated solutions Clinical reports on bismal are as yet quite sparse F von Oefele recommends it (E Merck's "Bericht," 1896, p 123) in very chronic diarrheas where opiates are but little or not at all effective—in such as accompany certain gynecologic and tuberculous affections He administers from 3 to 8 grains in cachets, three times daily or every three hours, according to the urgency of the case D de Buck and P Vanderlinden (*Belgique Médicale*, 1896, No 36) also successfully used bismal in tuberculous enteritis They gave 15 grains from three to four times a day, in oatmeal gruel

Eudoxine was the next claimant to favor It is the bismuth salt of tetraiodophenolphtalein ("nosophen") The latter is obtained by the action of iodin on solution of phenolphtalein It has acid properties, combining with alkalies or oxids of the metals to form salts Of these, two have thus far been prepared for medical use the sodium compound, known in the trade as "antinosine," a readily soluble surgical antiseptic, and the bismuth salt, eudoxine, which is the intestinal disinfectant and astringent under consideration here Eudoxine occurs as a reddish brown, odorless powder, insoluble in the ordinary solvents and undergoing decomposition into an alkali salt of nosophen and bismuth oxid on contact with alkalies It contains approximately 53 per cent of iodin and 14 5 per cent of bismuth On internal administration eudoxine passes the stomach unchanged (unless the contents are alkaline), while in the intestines, where the natural faint alkalinity is enormously increased in morbid states, it is decomposed, as above indicated, into bismuth oxid and sodium tetraiodophenolphtaleinate The latter passes through the intestinal coats by way of the absorbents, and, according to Binz and Zuntz (*Fortschritte der Medicin*, 1896), it is again secreted into the intestinal lumen, and thus exerts a continuous disinfectant action The first clinical test of eudoxine was made by Ph Rosenheim, of Prof Senator's clinic, Berlin (*Berliner Klin Woch*, 1895, No 30) He used it in a few cases of chronic dyspepsia and of summer diarrhea of children, and in 24 cases of enterocolitis in adults Of these latter, 7 were tuberculous, and in them no result was attained by the eudoxine, 17 were of simple catarrh, of which 5 remained unchanged, 3 improved, and 9 almost entirely recovered The ordinary dosage was from 5 to 8 grains, from three to five times a day The next clinical report was by Anton Lieven, and was made at the Fourteenth Congress for Internal Medicine, held at Wiesbaden, April 8–11, 1896, and all the remaining reports discoverable by the writer are American physicians Prof R W Wilcox of New York (*Medical News*, 1897, July 31) employed eudoxine in 35 cases Fourteen suffered from chronic intestinal catarrh, of these, six presented coincident hepatic and cardiac lesions Naturally, the latter class would be benefited by drugs which would influence the liver and heart, but Dr Wilcox is confident that the benefit was more rapidly obtained than it would have been without the use of the bismuth preparation Three patients presented intestinal fermentation, with discharges of muco-pus, considerable pain, and foul smelling stools, these experienced relief, although one required treatment for several months Four patients suffered from simple intestinal fermentation, these were permanently relieved although in one instance, nearly five months elapsed before treatment could be suspended Two women presented exfoliative membranous enteritis, both were put to bed, and received high intestinal irrigations with salol, with a carefully regulated diet and general supervision of all matters which are conducive to restoration of health In addition, the drug was used in maximum doses Both patients passed some months without the passage of shreds or membranes Nine patients presented symptoms of both gastric and intestinal catarrh They all improved, but not so rapidly as could have been wished until resorcin in 5-grain doses was given before meals The final result was satisfactory Two patients suffered from acute catarrhal duodenitis, with cutaneous itching, absorption jaundice, tender liver, and clay-colored and offensive stools Both were relieved, so far as their intestinal symptoms were concerned, although calomel in small doses (1/10 grain) at hourly intervals was given at the same time Both presented well-marked conditions, and obtained relief from the intestinal decomposition with more than usual rapidity The drug was not irritant, although Dr Wilcox believes that the effect of the iodin content of the drug upon the glands of the intestines is to render the stools less consistent Prof N S Davis, Jr of Chicago, reports (*Medical Standard*, September 1897) having used eudoxine in a large number of cases In many mild cases of chronic enteritis he has been able to almost completely check intestinal fermentation with it in a few days, and it seemed to accomplish this more promptly than any other remedy except naphthol, over which it has the advantage of being agreeable to take and harmless In mild cases he gives from 3 to 5 grains four times daily, if intestinal fermentation is considerable, he administers these doses every two or three hours In gastritis the remedy has done no perceptible good, but in enteritis, whether associated with inflammation of the stomach or not, it has uniformly seemed to be of benefit, except when intestinal fermentation was unusually great The only other reports extant are by E P Herscher of Denver, who speaks well of eudoxine in chronic intestinal inflammation (*Western Medical and Surgical Gazette*, 1898, No 4), and by Schön-Ladniewski of Lemberg (*Weiner Med Presse*, 1897, No 45)

The writer has found eudoxine serviceable in chronic gastro enteritis and entero-colitis, where it manifests a mild and continuous disinfectant and astringent action In acute infectious diarrheas, and in cases of extreme intestinal fermentation, it is not likely to be of benefit, and is here calculated to prove vastly inferior to stronger disinfectants and antizymotics, such as benzonaphthol, for instance I have never observed untoward effects from its use As regards dosage, to adults from 5 to 10 grains may be given, to children from five to ten years of age, from 1½ to 3 grains, to babes of four months, 3/3 grains, to nurslings of two months 1/3 grain, and to those still younger, 1/6 grain

Benzonaphthol—Napththol benzoate, $C_6H_5COO-C_{10}H_7$ was introduced by Yvon and Berlioz (*Semaine Médicale*, 1891, p 91) to supersede betol (naphthol salicylate), over which it was claimed to have the advantage of being less irritating and not as toxic Benzonapthol occurs as a white, odorless, tasteless, insoluble powder Its therapeutic employment depends chiefly on its content of naphthol In the intestines it is decomposed into benzoic acid and naphthol, the former being eliminated with the urine as alkaline hippurates, the naphthol as naphthol sulphuric acid Prof C A Ewald (*Berliner Klin*

Woch, 1893, No 35) has found benzōnapthol of the greatest service in various dyspeptic disturbances, flatulence and chronic meteorism from intestinal atony, particularly when associated with bismuth subnitrate and resorcin He gives 8 grains every two hours However, the remedy is not absolutely infallible, furthermore, in a few exceptional cases of Ewald's, intestinal colic and diarrhea supervened, but promptly disappeared on discontinuing the medication

M Bernitt (*Wiener Med Presse*, 1892, No 51), Bruck (*Pester Med Presse*, 1892, No 46), and Zinnis (*Deutsche Med Woch*, 1892, No 30) recommend benzonaphthol in infectious gastro-intestinal diseases of children and babes, while Kuhn of Giessen (*Deutsche Med Woch*, 1893, No 19) denies it all virtues in these affections

The writer has found benzonaphthol an efficacious antizymotic in conditions characterized by inordinate fermentation, whether functional or inflammatory in nature The dose for adults is from 8 to 10 grains every two hours, or about 80 grains a day, administered best in cachets, for children up to one year of age, from 1/2 to 2 grains every few hours, from one to three years, five times daily, 3 grains, from four to seven years, 24 grains per day, from eight to fourteen years, 30 grains daily, with an equal part of sugar or a trace of saccharin In chronic cases full action sets in only after four or five days, its astringent properties are not very pronounced

I believe I have alluded to all the antidiarrheal remedies introduced during the last few years Should any member desire information regarding any other intestinal remedies, the writer of this paper shall deem it a pleasure to supply the desired data so far as lies in his power

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THE MEDICINAL TREATMENT OF SOME DIGESTIVE DISEASES

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual meeting of the American Medical Association held at Denver Colo, June 7-10 1898

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There has always been a tendency, both within and without the medical profession, to scoff at drugs The tremendous development of certain scientific and mechanical departments of the healing art, within the last two decades has, by contrast, placed the homely skill of using medicines in the background Teachers and students of medicine have alike neglected the old fashioned details of therapeutics, therapeutic nihilists have arisen who have sought to discredit the value of drugs and, naturally enough, the preconceived notion that ponderable therapeutic agents have little use, has made it possible for those who hold such a view to demonstrate their belief from their own experience The writer is sufficient of an old fogy to hold that if the regular profession would devote to the physiologic and therapeutic study of drugs the same amount of pains that the homeopaths bestow upon what we believe to be false theories, a great advance would follow, and internal medicine would be correspondingly dignified

Disease is, in the main, a chemic disturbance, though often of so recondite a nature that we are forced to employ some such non-committal term as "vital" and to abandon all thought of cure through the agency of an ordinary chemic reaction Even in this latter kind of disturbances, we often find a well-established antagonism between disease and drug, which can not be explained but to which we allude under the term "selective affinity" In general, it may be said that a priori, there is just as much rationality in expecting relief from the action of a chemical circulating in the blood as from the effervescence of a briny bath, or the hanging of a nervous case by the chin and occiput till cured, or the kneading of dermal and subcutaneous tissues, or from reducing a human being to a vegetative state, all of which are methods of therapeutics in good repute and of great value

Digestive disturbances afford an especially favorable field for the application of drugs, 1, because they are usually more or less chronic and yet not sufficiently urgent to induce the patient to make the sacrifice of time and business interests demanded by hygienic therapeutics, 2, because an exact diagnosis, at least of the immediate physiologic failure, is usually possible, though requiring skill and special methods of examination, 3, because these abnormalities are, to a far greater degree than those of other organs, either chemic or vital in so simple a way as to be amenable to drugs 4, because surgical treatment is applicable to but few cases and, to these, with a grave prognosis, 5, because really valuable means of local therapeutics have been greatly abused, as to technique and frequency of employment

For practical purposes the majority of gastric disturbances may be considered functional The writer's personal opinion is that they are much more frequently dependent on organic change than is usually supposed, but as death seldom occurs, and as postmortem changes can very rarely be prevented or anticipated, for obvious sentimental if not better reasons, we know very little about the actual state of the gastric mucosa in dyspepsia Even the microscopic examination of particles of epithelium obtained by siphonage or spontaneous vomiting, is not reliable, since there is normally a shedding of more or less degenerated epithelium Probably 70 per cent of gastric diseases, taking them as they occur, are essentially atonic dyspepsias, characterized by deficiency of hydrochloric acid and by sluggish motor action The immediate relief of the former condition is ideally fulfilled by the administration of the same acid, while without obvious catarrhal involvement, local treatment is not indicated As to the motor function, probably nine out of ten physicians who were thoroughly impartial, that is to say inexperienced, would declare that the ideal treatment was the intraventral use of faradism But, considering carefully the various experimental studies as to the action of electricity on the muscle of the stomach, we must conclude that, while it is not absolutely impossible to note a contraction during the time that the battery is in use, there is no evidence that the faradism stimulates the gastric muscle to contract when subjected to this method of treatment On the other hand, we have a drug, strychnin, which most certainly does stimulate smooth muscle, whether of the stomach or elsewhere in the body, and whether we depend upon physiologic experiments or clinical experience Such cases—and others—might be thought suitable for the employment of hygiene But we find that ordinary gymnastic exercises do not produce much improvement, that the fresh air of the country or sea-side is overbalanced by the difficulty of finding proper food in either the typic farmhouse or hotel Heaven forbid that we should expose such patients to the bacterial and mental infection of a sanitarium or that we should initiate them into the mysteries of invalidism by prescribing massage and rest-cure They may be cured with great éclat by lavage, but they simply do not need to subject themselves to the discomfort and expense of this method, unless the case is extreme Neither are they fit subjects for the believer in the elaborate simplicity of dietetics Some few atrocities of modern cookery may be forbidden but, as a rule, the stomach needs the stimulation of varied and appetizing food, and the more such patients are dieted the more they have to be, the gastric power failing concomitantly with the diminution of the task set before it Not rarely we find patients who are relieved by hydrochloric acid and strychnin but who do not regain the power to digest without this assistance Then hygiene, change of air and scene, rest and recreation, come into play, but they must follow, not precede, medication

In the rather rare cases in which the stomach produces too much acid, avoidance of chlorids, of stimulating food and of irritating circumstances of all kinds, are the prime indications If treatment, except in a negative sense, is needed, alkalies and secretory depressants are efficient Rest is undoubtedly the ultimate need of most such patients, though there are a few who are lithemic, and who need some offset to idleness and high living Very rarely indeed is the rest-cure indicated, there being a great difference between *rest* and *rest cure*

As to ferments, the following general statements may be made 1, there is no information or reasonable supposition that a ferment of the digestive glands is ever produced in excess, 2, the failure of a ferment occurs only in the most serious organic disturbances—though not necessarily locally organic, thus, fever is often attended with failure of ferments The salivary ferment is particularly resistant to disease, though not of very great importance in health, 3, the administration of ferments should never be resorted to without first demonstrating their absence, 4, after proving that a ferment really is deficient—something that occurs in scarcely 1 per cent of cases—we must ask whether the stomach and intestine are in a condition to digest on the mere supplying of the ferment, or whether predigestion, rectal nutrition, etc, are not indicated As a rule, the body which lacks ferments lacks the power of using them if artificially supplied

Gastric catarrh, ulcer and cancer, for many therapeutic considerations, duplicate the indications of purely functional dyspepsia, if such a thing exists The lack or excess of acid, the need of a motor tonic, the indication for an antiseptic or anesthetic, must be worked out, case by case, without attempting to rely on a general rule While a stomach which is badly dilated and diseased so that food actually ferments and putrefies can be cleansed only by repeated lavage, there are efficient internal antiseptics which are all that are needed for the milder cases, and which usually are indicated in addition to lavage, in the severer conditions All things considered, oil of peppermint is the best of these, but oil of wintergreen may be used if there is a joint indication—no pun is intended—for the employment of a salicylate For more gradual antiseptic action, when we must consider the bowel as well as the stomach, salacetol is of the highest rank The writer's experience is not so favorable for the benzo compounds though these are also antiseptic Hydrogen peroxid is especially valuable when there is muco purulent matter present

Surgery suggests itself mainly in the relief of gastric cancer and ulcer With the former, the theoretic indication for surgery is balanced by the difficulty of making a diagnosis in time and by the grave prognosis, so far as the *operation itself* is concerned, so that at present the average case of cancer will continue to receive mainly medical attention Although the result is inevitably fatal, it must not be forgotten that the duty of the physician is all the more urgent to maintain *comfort, and that the ordinary gastric cancer* does not occasion the sharp pain that is too frequently connected with malignant disease, hence there is much room for rational treatment in improving digestive deficiencies, in maintaining gastric motility, in keeping the chyme aseptic and even in obtaining healing of malignant ulcerations Morphin is by no means a drug to be freely used Gastric ulcer, superficially considered, might be thought to indicate ligation of the bleeding part, but medical and surgical opinion is very nearly unanimous that operation is not feasible The local use of styptics is plainly contraindicated, first, because it is impossible to get them to the site of hemorrhage in sufficient quantity and sufficient concentration, secondly, because they are all irritants, and tend to cause retching, which aggravates the primary trouble The real indications are two—absolute quiet obtained by morphin, and vascular constriction by ergot Both should be given hypodermically To the best of the writer's knowledge, there is no satisfactory preparation of ergot for such use, all being irritating and some of the so-called ergotins being of unfixed dosage On the whole, the official fluid extract is about as good as the more expensive preparations Few physicians realize that many of the unpleasant symptoms and part of the actual danger of gastric ulcer are due to absorption of decomposed blood Indican is found in the urine in enormous amount and there is great need of intestinal asepsis Still, for the first twenty-four hours at least, the need of quiet is so urgent as to forbid cathartics, enemata, or even *intestinal antiseptics* A little ice is usually given, simply to keep the patient from being too restless, but even this is to be avoided as far as possible After a day or two, salacetol or bismuth subgallate may be given and, after the bowels have been freed from blood, it is well to give bismuth systematically, rather as an astringent dressing than as an antiseptic The writer's preference is for a 10 per cent emulsion of bismuth hydrate in water, or pure liquid petrolatum, if the patient shows no distaste for the mineral oil

In gastric catarrh, with or without dilatation, bismuth subgallate is an excellent and efficient remedy, though by no means able to supplant lavage and inflation with menthol or similar sprays In any condition in which the gastric mucosa is involved, we must make a sharp distinction between the needs of the stomach itself and the needs of the digestive process Usually, there exists quite a definite opposition between these two indications, the more or less alkaline and astringent application which is generally *needed for the gastric wall interfering with digestion*, while the hydrochloric acid and secretory and motor stimulants required to assist digestion are somewhat irritant to the diseased mucosa In cases that are absolutely or practically functional, we naturally pay attention only to the digestive deficiencies, in severe organic diseases, such as acute catarrh, ulcer and some manifestations of cancer and chronic catarrh, gastric digestion must be discontinued entirely for at least a few days, the body being nourished by the bowel and skin while the stomach is being medicated A large number of cases fall between these two extremes and, as a number of favorite ready-made tablets and liquid mixtures show, many physicians simply stir together the various drugs indicated and administer them all at once, letting their diverse activities battle for the supremacy In such cases, the rational treatment consists in doing one thing at a time Give such foods as may be digested in, say, three hours, in other words, rather plain but still appetizing and ordinary articles of food Administer such digestive aids as shall insure digestion and emptying of the stomach in about this time Then, every morning and afternoon, a period of two or three hours is at our disposal for medicating the gastric wall, while a drug administered at bed-time has a much longer period of possible action The writer would confess that his conception of a drug acting on the stomach and bowel itself is pretty nearly limited to bismuth The various vegetable astringents lack the property of a powder dressing, silver, copper and zinc are too active for more than temporary use, and each, moreover, possesses special objectionable features Cerium oxalate has no obvious advantage over bismuth, while, in most of the cases in which one or the other must be used, there is altogether too much oxalic acid formation in the system The main point in administering bismuth is to give enough of it With the possible exception of some of the newer antiseptic compounds, the minimum dose should be half a gram, and twice or three times this amount should usually be given Yet, within a few days, a cautious druggist has telephoned the writer in regard to overdose in the case of a prescription calling for a gram of the subgallate, three times a day

For the long reach of bowel between the accessible portions of the alimentary canal, the same general principles of medication apply as to the stomach It is of the greatest importance to be sure that the intestinal disturbance is not the final breaking down of the power to perform vicariously the duties of the stomach Many stomachs habitually shirk digestion, and the owner is unaware of the suspension of function so long as the gastric motor power is sufficient to pass the chyme on to the duodenum Next, by high enemata, we must keep the lower bowel clean and healthy Finally, we must administer the slowly soluble antiseptics, occasionally ferments inclosed in stomach-proof coatings, and usually the astringent bismuth, preferably now in pure petrolatum Juggling with cathartics and constipating drugs is not therapeutics, although it may be an inevitable makeshift

Although in scolecitis, surgery affords the safest and most thorough treatment, there are certainly many mild cases which recover under either constipating medication with opium, or laxative treatment with salines or belladonna, with or without intestinal antisepsis and hydrotherapy If we could be sure that free drainage existed from the mouth of the appendix and that gangrene and virulent ulceration could be excluded, medical treatment of even acute cases might be justifiable But, at present, the only cases in which operation should not be insisted upon, are mild and more or less chronic ones, the patient being so situated that surgical aid may be called almost at a moment's notice If we carefully consider the history of scolecitis cases, we must conclude that not grape seeds, nor other foreign bodies, not constipation, not necessarily catarrh of the bowel, not taking cold, not even anatomic peculiarities as to meso-, blood-vessels, and lymphoid tissue, are the essential causes The real cause in the writer's belief, is unusual virulence of intestinal bacteria, marked by prolonged intestinal indigestion and fermentation Thus, there is a rational field for the use of antiseptics, drugs to regulate the proper discharge from the bowels, including water, and, in addition, some of the slowly soluble compounds of iodin as resorptives

In our appreciation of the seriousness of scolecitis and the danger of too long delay of operation, we have gone rather too far in abandoning the old-fashioned conception of typhlitis There most certainly do exist cases of catarrh and atony, especially of the head of the colon, though not absolutely limited by an arbitrary anatomic division Here we find the sausage shaped fecal tumor just as truly as did our predecessors, and, in the absence of leucocystosis, of a septic temperature and pulse, we have as plainly as ever an indication for medical treatment, including salines, antiseptics and, later, such means as will check the tendency to catarrh and prevent an atonic yielding of the bowel

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THE TREATMENT OF HEART DISEASE BY SALINE BATHS AND RESISTED MOVEMENTS—SCHOTT METHOD

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

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The value of a therapeutic agent or method can not be measured by the volume of its literature nor yet by the enthusiasm of its advocates, and no doubt too great a measure of faith in the testimony of false witnesses has bred in us that skepticism which, however admirable as a mental attitude in scientific work, may nevertheless, if too greatly expanded, become a serious stumbling-block in the path of medical progress We are right in insisting upon something more than dogmatic assertion or the voice of authority in the determination of therapeutic values, we may justly demand the right to withhold judgment, ask for substantial proofs and thoroughly sift our evidence, but behind all this there must be a sincere and earnest desire, not alone to detect error, but also to know the truth, and the ultimate test must after all be derived from personal experience and the repetition of such experiences

If a new procedure is rational, if the evidence in its favor seems fairly good, and if it promises more than the old, we are in duty bound to give our patients the benefit of the trial The world has not moved very greatly in this direction in the last 200 years We may now read with astonishment the vituperative paragraphs which proved with a most imposing show of logic and a vast amount of physiologic and anatomic data that Harvey's great theory was the acme of absurdity, but we must also admit with some shame that nearly fifty years of this nineteenth century were required for the establishment of typhoid fever as a distinct clinical and pathologic entity. Upon the other hand, we wonder at our simplicity in accepting scores of therapeutic novelties, only to find them worthless and not always harmless. Curiously enough, too, that old stumbling-block—the blind worship of great names—has in the last two decades been stimulated by bacteriologic and pathologic discovery only to be discredited later by some unsatisfactory and hazardous therapeutic methods derived from the same sources. We have learned, for a little time at least, that even the greatest investigators must be allowed a little leeway when they enter the field of clinical diagnosis and therapeutics, and that important and valuable discoveries may lack the endorsement of a great name. During the past forty years there have come from time to time communications from certain medical men in the little town of Nauheim, Germany, and these claimed that remarkable results might be obtained in chronic heart disease by the proper use of gymnastics and baths. Beneke, Groedel, and August and Theodor Schott in admirable articles, stated again and again the facts as we know them now. Their treatment was rational, their results extraordinary, yet only a casual notice was granted them and their work. Suddenly, after four decades of neglect, a few men in this country and in England began to write of the treatment and publish their own experience, then followed a flood of literature and Nauheim, formerly an unimportant station, was visited by one hundred thousand patients in a single year. It will be seen then that the so-called Schott method is not new, but that after forty years of sheer neglect it has received a partial recognition and been placed upon trial by our profession.

The greater part of its literature, strange to say, is to be found in British journals, the most conservative in the world. It is for the most part very recent. As late as 1894, when the writer first used the treatment, there was but little in the English language—or indeed in any language—and curiously enough, American physicians, the most progressive in the world, have been almost as little concerned with it as the French, whose indifference has at least the excuse of racial antipathy. Heineman, Babcock, Camac and the writer have been the only American clinicians who have reported upon it. In England the flood of medical controversy was initiated by Bezley Thorne's enthusiastic advocacy of the treatment, and as a result the method was brought prominently before the most conservative element of our profession. The result has been remarkable. The favorable reports of several of the most eminent English clinicians, who visited Nauheim and personally investigated the effect of the baths and movements, the fact that the special commission of the *Lancet* also endorsed the treatment, and the confirmatory case reports from many sources combined to place it before the profession of the British Isles in a very favorable light. Such criticism as has developed has been, with one or two exceptions, of the honest and helpful variety, which seeks to correct hasty conclusions, modify extravagant statements and establish a correct theory as a basis for therapeutic application. For here, as elsewhere, there are extremists, and men who will tell us to a millimeter the shrinkage of a dilated heart after a bath, and who court disaster by an undiscriminating advocacy of a powerful agent, are opposed by men who deny the evidence of their own senses—and still more emphatically that of other men's senses—and condemn the treatment without a fair trial. There is a middle ground. Four years' experience with the Schott method in public and private practice has convinced the writer that it is a method which is well-nigh indispensable to the efficient treatment of chronic heart disease, provided always that it be applied intelligently and only in appropriate instances. Indiscriminate use of so potent a remedy means certain disappointment and positive injury in many cases.

The Schott method ought rather to be called the Method of Treating Chronic Heart Disease by Baths and Resisted Movements, the brothers August and Theodore Schott having been instrumental in securing the wider acceptance of the therapeutic method, and in combining the baths and Swedish movements to make a rational system, but having no genuine claim to original discovery. To Beneke, who wrote first in 1859, and to Saetherburg, the originator of the resisted movements, must be granted a large portion of the credit, hence no one man's name should be given to the method.

DESCRIPTION OF METHOD

What is the so-called Schott Method? It may be stated briefly as consisting of the systematic use of saline baths of definite strength and temperature, and the coincident or alternative employment of a certain series of resisted movements. The treatment originated in Nauheim, Germany, where the natural springs are strongly saline and heavily charged with carbonic acid gas, their varying temperature and strength making them admirably adapted to therapeutic use. The chief of a multitude of chemical constituents of these baths are sodium chlorid (1 to 3 per cent.), calcium chlorid (1 to 3 per cent.), with a considerable quantity of iron and a large amount of free carbonic acid gas. Their temperature varies from 81.7 to 95.5 degrees F. In practice the higher temperature and weaker waters are first used, the water being freed from the carbonic acid gas, a lower temperature, effervescent bath and greater strength in saline constituents being gradually attained as the treatment progresses. Baths are given daily, rarely more than three being taken consecutively, that of the third or fourth day being omitted. While the natural baths are better adapted to treatment, perfectly satisfactory results may be obtained from artificial baths made after the following formula.

Formulæ.—To 40 gallons of water (usual amount required) add sea salt, 3 to 10 pints (approximate strength 1 to 3 per cent.), calcium chlorid, pure, 11 to 15 ounces. It is important to note that this latter ingredient is not the commercial chlorid of lime, which, by giving off chlorin, would become a source of discomfort and danger. To introduce or generate carbonic acid gas we may use a soda siphon with conducting tube or the following formulæ of Bezley Thorne.

Mild—$NaHCO_3$, ½ pound, HCl (25 per cent.) ¾ pound.
Medium—$NaHCO_3$ 1 pound, HCl (25 per cent.) 1½ pounds.
Strong—$NaHCO_3$, 2 pounds, HCl (25 per cent.) 3 pounds.

The salts are first dissolved, the hydrochloric acid is then added and thoroughly distributed. The writer has found the best agent for adding the acid to be a douche bottle and tube, the acid being thus evenly distributed throughout the mixture.

Immersion.—The patient remains immersed from five to twenty minutes, the first bath being brief and the period gradually lengthened If the patient be very ill he should be carried to and from the bath and spared any exertion While in the bath he should remain absolutely quiet, breathe regularly and refrain even from speaking Upon leaving the bath he may be rolled in warm blankets to rest for at least one hour

Temperature—The temperature is at first about 93 degrees F, and may be considerably reduced after the six or eight baths have been taken and the use of carbonated baths begun, provided such reduction is considered necessary Usually, the patient's sensation is a safe guide to the regulation of temperature The bath should feel pleasantly and quite definitely warm throughout the period of immersion, and the patient should be cautioned and told to report at once any tendency to chill

The movements are very simple Swedish movement, and as recommended by Schott, comprise nineteen exercises, so planned as to bring into action every muscle group in the body These are best illustrated by plates, such as I now place in your hands[1] The movements are intended to produce without fatigue the beneficial result of exercises, and are of decided value in the treatment of almost all cases to which the baths are applicable

Before considering the effect of these baths and movements let us inquire what are the conditions which must be fulfilled by the ideal remedy for chronic heart disease They are the following *a*, the heart must be rested and strengthened and its own cell metabolism and circulation be improved, *b*, the peripheral resistance must be lessened, *c*, the general venous engorgement and failure in metabolism must be overcome That these indications are fairly met by this treatment in the larger number of heart lesions is positively proven by a study of the effect of baths or movements upon our patients as noted below

Effect of baths—1, There is a fleeting sense of oppression and dyspnea (rarely seen by the writer), 2, a feeling of exhilaration and well-being, 3, slowing of the pulse, and coincidently, a fuller and stronger beat, 4, brightening of skin, nails and mucous membrane, indicating relief of cyanosis, freer capillary circulation, 5, secondary reduction of pulse tension with maintenance of lower rate, 6, marked reduction in cardiac area, most marked primarily in right heart, but involving both lateral and vertical dimensions The effect of the movements is almost precisely similar, but as long maintained

The elaborate theory of Schott, which assumes the imbibition of saline and gaseous constituents and reflex stimulation through the skin, must, I think, be regarded as unnecessarily elaborate and very unsatisfactory It is not necessary to make a theory to fit any particular sort of a bath, for a simple and adequate explanation would seem to be found in the well-known effects of warm baths in general upon the circulation The chief effect of such baths is to free the circulation in the peripheral vessels, thus reducing the work of the heart and enabling it to receive and pass on more blood with less effort Rest and warmth after the baths prolong this effect for a considerable period Thus, venous engorgement is relieved, normal cell-metabolism re established, and the products of suboxidation are either consumed or swept away into their proper eliminative channels The stronger the bath and the more CO it contains, the more stimulating it will be and the less likely to be attended with chill during or after the bath, and the more marked and sudden its effects The flowing baths at Nauheim are almost precisely like surf baths in their effects, and are never used until late in the treatment In the movements much the same effects are produced as by the baths, through the opening of the immense drainage area embraced in the capillaries of the muscles To understand this we only need to remember that rapid or protracted contraction of a muscle hinders circulation and induces vasomotor constriction, while gradual contraction produces dilatation of the capillaries and mechanically assists the onward flow, thus favoring greatly the general circulation The initial rise in blood pressure noted in using the baths is, in the case of the movements, almost entirely lacking

Having thus briefly discussed the general methods without any attempt to cover minor details, you will perhaps permit a few deductions from a personal experience with this treatment extending over a period of four years, and embracing nearly one hundred cases Let us consider, 1, the necessity of scrupulous adherence to the exact formulæ representing the constituents of the Nauheim baths, 2, the relative value of the baths and movements, 3, the cases best adapted to treatment, 4, the cases in which the treatment has proven less useful, though harmless, 5, cases in which it is contraindicated, 6 the precautions necessary if the best results are to be obtained, 7, the actual results obtained in suitable cases

Is strict adherence to formulæ essential?—In the writer's opinion strict adherence is not essential, though the general make up of the baths should be about the same The important features are warmth and moisture, and excellent results are obtained without the use of any ingredient save the salt, which prevents chilling and acts as a cutaneous stimulant Carbonic acid acts in much the same way, but, while delightfully stimulating, is not absolutely necessary, unless the colder baths are used It is doubtful whether these cool baths may be safely used elsewhere than at the natural springs, and they are moreover entirely unnecessary in most cases It must be remembered that immersion in plain warm water will slow the pulse in precisely the same way as the regulation bath, but such baths are not advisable, because the feeling of exhilaration and well being is not marked, the effect upon the heart is less decided and less enduring, and the liability to chill is increased

Relative value of baths and movements—The effect of baths is more permanent than is that of the movements, but both should be used, the movements in the morning and the baths at night

Cases best adapted to treatment—It is admirably adapted to cases of incompensation of moderate severity where rest is not to be had, and to those severer cases in which rest and cardiac stimulants have proven useless or reached the limit of effect The particular class of cases best adapted to treatment are the mitral cases, particularly those of regurgitation, even if very advanced, and all cases of slight incompensation, in which marked arteriosclerosis and myocarditis are not present In exophthalmic goiter, cases of functional irregularity, of neurasthenia, in all cases of anemia and in chronic rheumatism it is very useful

Cases in which it has proven of l [illegible] *e*—In the writer's h [illegible] ac [illegible] wheth [illegible] regurgitation, [illegible] le [illegible] its

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[1] Author Extreme Dilatation of the Heart due to Valvular Disease with Special Reference to Treatment by Schott Method International Clinics Vol ii 2d Series

No harm has been done, and many have improved, but the writer is not satisfied that the treatment is here of any decided value, and believes that simple rest and the resisted movements are much to be preferred

Cases in which it is contraindicated—These are aneurysm, marked arteriosclerosis, chronic myocarditis and chronic Bright's disease, yet, while baths are in these cases distinctly dangerous and harmful, the movements may be decidedly beneficial

Precautions—To obtain the best results, the tub should be large and the patient immersed to the chin if possible The baths should never be given hot, nor on the other hand, should the patient feel any chill during the bath Great pains must be taken to avoid voluntary movements during and after the bath If the circulation in the extremities be poor, brisk, light friction may be used If calcium chlorid be used it must be pure A very sick patient must invariably be watched by a skilled attendant throughout the bath If CO_2 is actively generated it is well to fan it away before placing the patient in the bath Cases of extreme incompensation are best treated at the outset by rest in bed, and the usual remedies, they will almost always show marked improvement, and when this improvement begins to flag one may begin the baths and use the exercise with slight daily increase in the resistance Allow an exceedingly gradual resumption of voluntary movement and accept no case of severe incompensation for less than six weeks of treatment

The following rules must be observed in using the movements Remember that they are intended to produce the beneficial result of exercise without fatigue, and you have the keynote of success, and can appreciate the scrupulous care necessary in using them in chronic heart cases The nicest judgment and most painstaking skill are required, and increase of the pulse-rate, pallor, or evidence of dyspnea warns is to stop at once The amount of resistance, rest ntervals, and number of movements well borne by he patient must be left to the operator's good sense Furthermore, the clothing must be loose, each movenent should be performed deliberately and smoothly, he breathing must be deliberate and regular, the esistance should be varied according to the strength of the patient and the effect produced, and no movenent should be repeated in the same limb or muscle group Thus simple and rational are the principles of this treatment

Results obtained—If proper care in the selection of cases and strict supervision be exercised, the results are really remarkable The writer has never seen such extraordinary shrinkage during the first bath as has been described by some writers (3 inches), but in an old mitral case a man must be strongly biased or a trifle weak in his physical diagnosis if he can not easily demonstrate a decided recession of the borders during the bath That this is not due simply to the somewhat deeper breathing induced by the bath, as has been asserted, may be easily demonstrated by testing the effect of similar breathing before the bath It must be remembered, however, that rest alone may produce remarkable shrinkage in a dilated heart, and it is probably wise to try rest, digitalis and strychnin for the first week or two and thus get a very gradual rather than rapid change in the conditions As before stated, we always arrive at a point where progress is slow, and then the baths are indicated While the writer believes that the effect of the baths is often overestimated, by reason of the fact that the effect of simple rest is underestimated, yet the shrinkage of the cardiac area, the improvement of the heart action, the pronounced diuresis, and the prompt removal of secondary symptoms under this rational and simple treatment are decidedly impressive and, in the writer's opinion, no treatment of dilated heart can leave the salt baths and movements out of that great therapeutic combination which includes digitalis and strychnin, baths and resisted movements, walking on the flat and hill-climbing The rational therapeutist can omit none of these from his list, yet he might find it hard to fix their relative importance If the writer were forced to discard all means but one, baths and resisted movements would be his choice as being of the broadest application But fortunately we are not thus limited, and the measure under discussion forms in any event one of the most important adjuncts to the successful treatment of heart disease

NOTES ON TYPHOID FEVER

TWO HUNDRED AND TWENTY FIVE CASES TREATED DURING AN EPIDEMIC OF THAT DISEASE

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo June 7 10 1898

BY J P BARBER, M D
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Typhoid fever remains a most interesting study Its pathology, which was supposed to have been settled years ago by the discovery of the bacillus of Eberth, will have to be remodeled to fit certain facts of recent research The bacteriologist, who has done so much to illuminate this disease, can not yet call his labors finished The best efforts of the therapist to evolve a treatment which will abort, or even materially modify, the course of the disease have signally failed The clinician must often confess his shortcomings in its diagnosis

An epidemic of this disease began in the city of Minneapolis in February, 1897, and was traceable directly to the water-supply Drs Westbrook and Wilson,[1] of the laboratory of the State Board of Health, isolated the bacillus typhosus from the water in April of that year Nearly every case seen during the months of March, April and May was typic and severe The spring floods, which came about the middle of May, were unusually severe and the river, from which the water supply is taken, remained comparatively high during the remainder of the summer and fall Then followed a series of most interesting cases, more than half of which were atypic The total number of cases seen by the writer from March 1, 1897, to May 1, 1898, was 225 Of this number 114 were typic and could have been easily diagnosticated clinically The remaining 111 were atypic, and many of them could not have been identified without the aid of certain laboratory tests For convenience these 111 cases are divided into three classes, as follow 1, the extremely mild, 55 cases, 2, abortive, 28 cases, 3 beginning concurrently with some other disease, 28 cases

The first class of cases is well illustrated by the following history

Class 1—C B , male, aged 32, had been feeling ill three days, headache, anorexia, lumbar pains, general muscular soreness, temperature 99 degrees F at 3 P M , tongue slightly furred with white coating, slight tenderness on deep pressure over right iliac region, diazo reaction and serum test both negative

Fourth day Temperature, 9 A M, 97 6, 3 P M, 99 degrees, other symptoms about the same, urine and blood tests both negative

Fifth day Temperature, 9 A M, 97 8, and 5 P M, 99 degrees, headache and muscular pains increased, tongue more deeply coated, bowels constipated, urine shows faint rose color with diazo reaction, serum test negative

Sixth day Temperature, 9 A M, 99, 4 P M, 99 8 degrees Distinct rose colored diazo reaction, serum test negative

Faint grouping was noted with the serum test on the eighth day, and a perfect reaction on the tenth, twelfth, fourteenth and twentieth days Slight enlargement of the spleen was noted on the tenth day The temperature vacillated between 97 6 and 99 degrees from the eighth to the eleventh days, after which it remained normal The tongue cleared off, appetite returned and the patient felt as well as usual

This class, of which the above is a good representative, presents many variations in the symptoms But, as a rule, the usual prodromata are present, with a very low fever of ten days' to two weeks' duration All have reacted to the diagnostic tests for typhoid fever

Class 2—Alice W, female, aged 13 years Had eaten inordinately of sweetmeats three days ago, has been vomiting ever since, intense headache, epigastric pain and tenderness Temperature 103, pulse 90, respiration 20, diazo reaction and serum test absent

Fourth day Temperature, 3 P M 104, respiration 20, pulse 96, vomiting ceased, tenderness over entire abdomen, diazo reaction intense, serum test negative

Fifth day Temperature 9 A M 102, 4 P M 103, headache not so severe, feels much more comfortable, no pain in epigastric region, but still tenderness on pressure over abdomen, area of splenic dullness considerably increased, no spots, serum reaction present

Seventh day Temperature 9 A M 97 5, 4 P M 99 She feels well and wants to sit up The temperature registered between 97 5 and 99 for three or four days, the tongue cleaned off, appetite returned and she felt as well as usual The serum reaction was present on the 6th, 8th, 9th, 12th and 20th days

This is a fair representative of this class of cases The outset is generally rapid, sometimes sudden with chill or, if the patient be a child, convulsion The temperature rises to 104 or 105, or even higher, for three or four days, then suddenly the disease terminates by crisis similar to that of pneumonia There is generally no cough in these cases, and in none of them could there be detected the slightest physical sign of lung involvement None of them have shown the rose colored spots In some, splenic enlargement could be plainly detected There was sometimes tenderness in the epigastric, or in the right iliac region, but often these signs were wanting All of them reacted to the urine and blood tests, and as a rule each test appeared early in the disease, the diazo reaction almost invariably appearing first

Class 3—Pneumonia, 7 cases, severe acute bronchitis 10, amygdalitis 3, otititis media 1, pleuritis 2, peritonitis 1, renal hematuria 2, cystitis 1, periostitis 1

I would call attention to this as a very interesting class of cases In 23 of them there is a suspicion that the respiratory tract was the point of invasion of the infection Sicard[1] believes that one tenth of all cases are infected in this manner Henrots'[2] report of 112 cases of typhoid fever among a troop of 1600 soldiers, who during a sham battle passed over a very dry and dusty field which had been fertilized with human excrement, would indicate the respiratory tract as a point of invasion of the bacillus typhosus, especially as it was noted that a great number of them had pneumonia and other pulmonary complications Flexner's[3] case, in which the typhoid bacillus was found in the lung, liver and spleen, while the intestinal mucous membrane was normal, and the mesenteric glands not enlarged, would seem to add additional weight to this theory There is abundant evidence in the recent literature of this disease to show that the intestinal lesions are not a necessary part of its pathology Nichols and Keenan[4] have recently reported a case and collected nine others in which no lesion of the intestine was found, although the typhoid bacillus was cultivated, usually from the spleen Sanarelli[5] maintains that the disease is, properly speaking, not an intestinal one, that the spleen and lymphatic system are the points where the bacilli produce their peculiar toxins, and the intestinal lesions are due to secondary causes Osler[6] makes the clinical observation that "the severity of the symptoms of typhoid fever bears no relation to the extent or intensity of the intestinal lesions"

There have been two deaths, a little less than 1 per cent This is not mentioned to bolster up any particular treatment, but rather, to show the fallacy of mere figures, unconnected with other facts, when used to prove the efficacy of any so called abortive treatment One-third of these cases have either aborted before the tenth day or run a course so mild as to make the diagnosis of scientific interest without the use of the particular remedies which are claimed to produce these results While not decrying medicinal treatment in this disease, the writer believes that other factors play a much greater part in affecting the mortality The attenuation of the specific infection, the amount received, the individual resistance or degree of immunity, may be mentioned among these factors and the peculiar circumstance of this epidemic would tend to show that at least one of them had much to do with lessening its severity

It is desirable to call attention to the value of the chemic and bacteriologic tests in the diagnosis of this disease In a former article[7] the writer has shown the relative values of these two tests The diazo-reaction appeared first or at the same time in 80 per cent of the cases in which it was used side by side with the serum test It has failed to appear in 12 out of 200 cases, and in only one of these was it fairly tried It almost always appeared before the eighth day, even in the mildest cases, but in some of these it is present only on one or two days To be certain that it has not appeared, tests should be made daily Although it is found in some other diseases—measles, scarlatina, parotiditis, varicella, tuberculosis and cancer—by careful attention to the clinical symptoms, this test is a valuable aid in making an early diagnosis in typhoid fever Simon's[8] method, with Green's[9] modification of the formula, has been used and no test accepted unless a pink or rose color was given in dilution with five to ten parts of water

The serum test is the anchor in the diagnosis of this disease, and is very nearly, if not quite, pathognomonic Dr Wilson,[10] assistant bacteriologist to the Minnesota State Board of Health, has made 1150 tests from 365 of my patients Wyatt Johnston's dried blood method with dilution of about 1–25 was used in about one half the tests, and Dr Wilson's[10] method of collecting the blood on aluminum foil, weighing and diluting it accurately to 1–25, was used in the latter half Of those cases in which the reaction was negative throughout, one was typic typhoid fever clinically Two others were [illegible] fants ten weeks old whose te[illegible]rature ran[illegible] to 103 for three [illegible] had ras[illegible] typic

They had diarrhea, distension of the bowels and enlarged spleen The urine of each gave diazo reaction throughout the illness They had been partly bottle-fed, the family using infected water No other members of the family had typhoid fever One other case of doubtful diagnosis was reported by the writer[11] in a former article These four would make a percentage of about 1 8 in which the reaction was absent On the other side there were two cases, one of which has been reported,[12] in which the reaction was present during the course of another disease, in which there was at least a suspicion that typhoid fever was not present The second case was one of severe erysipelas, during the course of which the serum reaction appeared on the fifteenth day The spleen was enlarged, and there was diarrhea with characteristic stools There was at the same time another case of typhoid fever in the family

Gwyn's[13] case of typic clinical typhoid fever with rose spots, diazo-reaction, hemorrhage from the bowels, serum reaction negative, in which cultures from the blood showed only Gaertner's bacillus, may throw some light on such reports as Brill's,[14] who, in seventeen cases clinically resembling typhoid fever found the serum test negative And further research along this line may prove Widal's test pathognomonic of infection with the bacillus typhosus

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CLIMATIC VERSUS SERUM TREATMENT OF PULMONARY TUBERCULOSIS

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10, 1898

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The climatic treatment of disease is a most important subject, and one that I am convinced has not been fully studied and appreciated No doubt many failures are to be attributed to the fact that neither proper cases nor proper climate have been selected Because a patient has tuberculosis is no reason or excuse why he should be sent two thousand miles or more from home and comfort and friends, only to find, perhaps his malady increased, and to die among strangers We should prescribe a change of climate with as much discretion and judgment as any other remedy Whether a patient should be sent from come in search of health will depend upon several conditions The stage of the disease, the vigor, vitality, disposition of the patient, and the means with which to live comfortably, are all to be considered Physicians in the Rocky Mountain region are continually meeting with cases that should never have been sent to this country Too frequently we are obliged to advise their immediate return Tuberculosis in the last stages is only aggravated, and the condition of the patient made worse and more uncomfortable by a residence in this altitude

Climatic treatment, like any other treatment of disease, should be applied early The earlier the application of the remedy, the more certain and positive the results It may be said, with little fear of contradiction, that tuberculosis in the first stage, and often in the second, is cured by a proper change of climate In selecting cases for climatic treatment, therefore, by all means select the early ones Do not wait until the golden opportunity is lost in the hope of arresting the disease by less effective measures

It must be stated in this connection, however, and it must be admitted, that tuberculosis originating in this climate, as a rule, runs a rapid and unfavorable course This has been the observation of those who have had the opportunity of watching these cases It has been my misfortune to have met with a few such patients, and they have formed no exception to the rule

There is another factor of no little importance that should be considered in the selection of cases appropriate for climatic treatment, and that is, the financial circumstances of life Many seem to entertain the impression that no matter what the stage of the disease, if they can only live to reach this land of promise, their ills will take wings, they will find ready employment and health will soon be restored By the irony of fate, many find no employment, and, as a result of anxiety and forced economy, the ills are increased If a patient's circumstances are such that he can not live in comfort and idleness, if necessary, for at least a year, it would seem hopeless to send him in search of health Something more is needed than mere climate A contented mind, freedom from worry and anxiety good and abundant food and cheerful surroundings—these are all essential factors I contend that it is more humane to allow a patient to die in peace at home, even if his days are shorter, than to send him in the later stages away in search of health, unless he has means with which to command every comfort

The selection of the proper climate is quite as important as the proper selection of cases There is no climate suitable to all cases, although in general terms we may say that the essential features are altitude, dryness, abundant sunshine, and uniformity of temperature Wherever these conditions prevail, a tubercular patient has the best chance to recover Early cases, with no heart lesions do best, as a rule, in a high altitude with its invigorating and stimulating atmosphere These are the cases that do remarkably well in Colorado More advanced cases need a warmer and a less elevated climate Such cases do better in New Mexico, Southwestern Texas, Arizona, or the interior of Southern California Many cases do well in Colorado during the summer and fall, but do not bear well the cold of winter, and it becomes necessary for them to go southward during this season, and, again, there are many who do wonderfully well in winter in New Mexico, Texas or Arizona, but who can not endure the heat of summer in those regions It becomes necessary, therefore, to shift a patient about from one climate to another in order to take advantage of the best seasons until he has recovered

Another important consideration is the fact that tubercular patients recover slowly It requires from six months to three or four years, according to the condition of the patient and the stage of the disease, to entirely recover, and even after this period it is usually necessary for a patient to live in that climate where he has recovered, or a similar one Too frequently patients come to this country with the idea that within a very few months their disease will be eradicated in some magical way, and that they can then return with safety to their eastern homes This is a most erroneous impression, and should not be encouraged The earlier the cases are recognized and sent to appropriate climates, the more likely that they will be able to return to their eastern homes, providing every vestige of the disease has been eradicated Such patients must, however, be prepared to flee for their lives on the slightest return of their malady As a rule, we can not trust them, and they will remain long after they have been warned, and often until it is too late to regain the lost ground The success of climatic treatment will, therefore, not only depend upon the proper selection of climate, but upon the proper selection of cases as well

At the present time the serum treatment of tuberculosis is attracting widespread attention The almost specific action of antitoxin in the treatment of diphtheria has inspired many of our best and brightest men to seek a like remedy for the cure of that arch enemy of the human race—consumption At the present date it is generally admitted that the serum treatment of chronic tuberculosis is disappointing It remains yet to be proven whether it is effective in the early stages If it produces immunity, if it arrests the progress of the disease in incipient cases, it still remains to be proven how long the immunity continues

If antitoxin is nature's remedy for overcoming disease, it would seem that in a disease which is essentially chronic, with no tendency to self-limitation, if immunity is conferred it would be necessary to supply the system continuously and indefinitely in order to preserve the immunity and to prevent relapse A patient with tuberculosis in its early stages may be cured by the administration of antitoxins Will he remain cured and how long are equally important considerations In diphtheria it has been proven that the immunity produced by antitoxin in full protective doses lasts at most only three weeks Is it reasonable to suppose that an antitoxin for tuberculosis would produce immunity for a longer period? If a patient's environment is not altered, if the same conditions and surroundings exist after as before treatment, or if the patient again inhales the fatal bacillus, will there not be a return of the disease?

It has been proven beyond all doubt that proper climatic treatment almost invariably arrests early tuberculosis I will not occupy the time of this society by reporting cases to prove this assertion That even many late cases improve and remain in a fair degree or health for years, and that many second stage and most (at least 90 per cent) of the first stage cases, entirely recover, is a fact so well established that it is unnecessary for me, on this occasion, to enter upon a detailed history of cases It is true, however, that with very few exceptions a patient can not return to a low altitude and previous environment without great danger of the redevelopment of the disease The immunity conferred by climate is thus lost Why should this be so? We recognize that altitude, pure air, sunshine and uniformity of climate are essential factors in promoting the cure of tuberculosis Why ? May it not be because these conditions invigorate the system and stimulate the production of the normal antitoxins of the body? May this not be the reason why immunity is lost sooner or later when a patient cured by climatic treatment, returns to former conditions and surroundings? If climatic treatment must be ontinuous in order to preserve immunity, is it not equally true that the artificial introduction of antitoxins into the system must also be continuous in order to maintain immunity? The brilliant work that has been done the past few years in the bacteriologic laboratories of the world presages victory in the discovery of a remedy for tuberculosis There are, however, unseen forces that must yet be understood and overcome The mysteries and difficulties of artificial antitoxin production and application are distracting and apparently unfathomable, but it ill becomes any man to say that these difficulties and mysteries will not be solved

Until we have more light to guide us, until we are more fully convinced of the utility of the serum treatment of tuberculosis, we should continue to take advantage of climatic treatment, which has been fully tried and seldom found wanting

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A FEW CONSIDERATIONS REGARDING CLIMATIC CHANGE AND SERUM THERAPY IN PULMONARY TUBERCULOSIS

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

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If an apology is necessary for the introduction of that concerning which so much has already been written, it is found in the vast importance of the subject, the wide diversity of opinions, the rather general absence of clearly defined knowledge and the increasing mass of literature extolling without limit the virtues of special methods of treatment It is not my purpose to advocate unduly the adaptability of any climate or climates to the various stages of the disease To present a plea for the more rational and conservative measures of treatment in a climate appropriate to the individual case, in opposition to the present employment of serum-therapy in its various modifications, is the object of this paper As a preliminary postulate, I will submit that climate in conjunction with painstaking attention to details of management offers to the pulmonary invalid greater assurance of improvement than can be otherwise obtained

Waiving for the present the acceptance of this proposition, it is perhaps well to allude briefly to the errors of judgment often observed in the early history of pulmonary tuberculosis prior to arrival in Colorado I do not refer merely to mistaken or deferred diagnosis with its unfortunate results, but more especially to the ill-considered advice imparted, when the nature of the condition has at last become clearly established The temporizing delay at this stage of the disease, more important than any other, forms too frequently a portion of the evidence which may convict the medical adviser of culpable and contributory negligence I have been impressed repeatedly and forcibly, *from a study of my records that the vast* majority of the pulmonary invalids in Colorado arrive only after moderately active and extensive infection has taken place It is by no means infrequent in my experience to feel compelled to advise an immediate return for the unfortunate who has but finished his journey of one or two thousand miles only to find that he has come too late The history of such cases usually discloses the duration of a several years' illness, with ample opportunity for earlier climatic change had it been advised or properly insisted upon It is pertinent to state that out of a total of 350 selected cases which have remained under my supervision, more than half presented themselves with extensive pulmonary involvement averaging about a year and a half subsequent to the recognition of their condition The fact that 213 of the cases in the entire list came to Colorado with pronounced signs in each lung should emphasize, not only the necessity of earlier diagnosis, but the wisdom as well of more prompt climatic treatment

The patient with pronounced physical signs of pulmonary tuberculosis often states upon arrival that he was advised by his physician to remain at home during the summer and early fall and prepare to visit this climate for a few months in order to escape a bad winter The history almost invariably shows a progressive decline in weight, strength and appetite, with increase of fever, cough and expectoration during the so-called favorable season at home He consequently arrives in Colorado less prepared to respond to the influences of her climate, and is deprived, for the year at least, of a considerable portion of her most favorable and delightful season Others, after one or two years' illness at home, are frequently instructed to come to this State for a definite period, of perhaps three to six months, regardless of climatic results As a matter of fact, many such cases do not live out their expectancy in Colorado

It is interesting, but discouraging, to note the large proportion of cases coming here as a last resort A reference to my records show that a very considerable number of cases first sought climatic change elsewhere When it is considered that the distinctive climatic conditions in Colorado are especially applicable to the early cases and contraindicated for those with the most extensive infection, the true significance of such procrastination will be more fully appreciated This would be less worthy of comment were it true that a recourse to only a few localities was usually observed before a resort to Colorado The unfortunate fact remains that in a great many instances the patient has exhausted the climatic influences of the entire country in a vain effort to secure arrestment, before applying to Colorado as a court of last appeal As a fair illustrative example I will cite the following brief and imperfect report Mrs X, aged 29, New York State Arrived in Colorado Feb 11, 1898 Present illness began October, 1896 Two months later was sent to Thomasville, Ga Remained two months, improved, was directed by her physician to Aiken, S C, remained one month, gained Returned to New York, remained three months and failed, successively sent for short periods to Canada, Northern New York, Bethlehem, N H, and advised to return to New York City, where she was for three months under daily inoculations with oxytuberculin She was finally sent to Colorado, one year and four months after recognition of disease, equipped with special hypodermic syringe and a full complement of the tuberculin, but with exhausted energies, depleted finances and extensive infection of both lungs, moderate pyrexia, severe distressing cough with copious expectoration, disturbed digestion, loss of weight, cardiac excitement and insomnia I will state that the patient is improving at the present time and is likely to remain for a considerable period in Colorado, in spite of the adviser in New York, who is, even now, counseling another change It seems strange that patients should receive directions to keep constantly on the move, irrespective of adaptability to climatic conditions and of benefits already received in any location

It is to be regretted that certain physicians have seen fit to order their patients away from home with instructions to beware of the doctors, or at most, to secure an opinion as to results obtained after the lapse of several months Unfortunately many of these are compelled to seek medical aid much sooner than anticipated as a direct result of the injudicious counsel of their home advisers, with reference to exercise, work or manner of living It is safe to say that nearly one-third of the pulmonary invalids seeking direction in Colorado for the first time, present the history of several months' residence in the State, usually under decidedly improper conditions and with unsatisfactory results thus far attained

The spectacle is also occasionally witnessed of the physician, who has perchance never been in this region, presuming to dictate in advance, or later at a distance of 1000 or 2000 miles, the policy of therapeutic management There came under my observation not long ago a young man from an eastern city who, during a period of six months' residence in Colorado, had prepared fortnightly cover-glass specimens of the sputum, to be mailed to his physician in the east The cheering intelligence was regularly returned that the bacilli were diminishing in number and that favorable progress was being maintained The actual results attained were as unsatisfactory as could have been expected from the character of the medical advice It does seem that there should be a tremendous liability for such errors of professional judgment as are responsible for the loss of human life and happiness, and for which there can be said to exist no extenuating circumstances From the history and character of the cases almost daily coming under observation in this climate it would appear that the medical counsel was occasionally delivered without the encumbrance of knowledge or the handicap of conscience Is it not fitting in a discussion of this character to enter an emphatic protest against the indiscriminate character of the medical advice frequently given with reference to the question of an appropriate climatic change? As far as pertains to Colorado, I can only report that cases suitable for this climate should come early, come to stay, and come prepared to receive competent counsel

Despite the rather unsatisfactory character of the cases generally observed in this State, the combined results of climatic influence and management are nevertheless extremely gratifying From my own experience and that of my colleagues in Colorado, I am sustained in stating that, in round numbers, from two-thirds to three fourths of all cases taken as they come may be expected to exhibit pronounced improvement under proper conditions Instances of incipient pulmonary involvement constituting, as they do, but one-fifth of the entire number, show material gain if not permanent arrestment, in nearly four-fifths of these cases If with slight tubercular infection is combined other favorable considerations with reference to temperament, nervous system, digestion finances, and domestic relations, the percentage of improvement in such instances is raised to 90 The authenticity of these statements is subject to verification by a reviewed analysis of my own recorded cases and the reported observations of others The significance of these figures is remarkable in view of the obvious difficulties constantly experienced in maintaining a strict and proper regimen for somewhat indefinite periods The fact that but one-fifth of all the cases observed in Colorado are incipient ones, and that the accorded results of the climatic change are not relatively increased, reflects a certain responsibility upon the general profession and offers a justification for these remarks

In the midst of the present enthusiasm and interest in the treatment of pulmonary tuberculosis, the laudable search by strictly scientific men for new and specific remedies, the undue haste in heralding the results of serum-therapy as applied frequently to a limited number of cases totally devoid of adaptation to the means employed, and in the midst of the unfortunate tendency to experiment with the various special methods in private practice, to the exclusion of climatic considerations and systematic management, let me ask, "What have been the ultimate authentic results?" It is comparatively easy to sound the praises of certain methods and ingenious appliances, but, after all, "the proof of the pudding is in the eating' Have the patients shown a satisfactory and enduring improvement? The arguments should be summed up and conclusions reached with reference to the practical results upon the unfortunate consumptive, rather than from laboratory inferences derived from guinea pigs The alleged immunization of this animal is of but slight interest or value to the pulmonary invalid, if the modified tuberculin preparations are to continue to exert their distinctly deleterious influence upon the course of the disease What well-substantiated clinical evidence has as yet been adduced to justify, in the slightest degree, the increasing employment of such preparations outside of carefully-conducted experimental institutions? Great interest has been attracted of late to the new tuberculin of Koch, the derived serum of Fisch, and the oxytuberculin of Hirschfelder The later German consensus of opinion upon tuberculin preparations may be safely considered to reflect more favorable estimates upon their present utility than could be generally entertained elsewhere in any responsible manner The extent of German disfavor upon the use of the new tuberculin, from the latest clinical reports, is well understood Numerous authorities in Europe, from their own personal experience, have unhesitatingly stamped their disapproval of its employment The following from the *Philadelphia Medical Journal* of March 12, 1898, possesses much significance in this connection

> At the last three meetings of the staff of the Charité Berlin's largest public hospital, the therapeutic worth of Koch's new tuberculin was discussed It is now in use over ten months and some definite conclusion as to its specific therapeutic efficacy, it would seem, should be given to the profession at large, who look to those with hospital opportunities and material for practical results Not a single voice was raised in its favor, except that of Professor Brieger, Koch's assistant in the institution for infectious diseases, and even that voice, it must be confessed, in somewhat apologetic tone rather than in any convincing way

The *Medical News* of March 19 1898 contains an interesting reference to the clinical discussions at the Charité and to the absolute failure to produce immunization in animals with the new tuberculin It states

> The experiments seem to have been carefully carried out, the dosage of tuberculin was exact and sufficient and the observations numerous enough to do away with the idea that perhaps coincidence played a rôle in the results obtained, and yet there was utter failure to get the desired immunity After supposed immunization, all the animals died when inoculated with tuberculous material, and, interesting enough, most of them before the control animals inoculated with the same material at the same time The history of the second tuberculin forms an interesting commentary on the enthusiastic reception of the first In Berlin it has had practically the effect of destroying faith in all so called specific remedies for tuberculosis Constitutional treatment is now the only method receiving any attention

Subsequent to the decision of the Académie de Médecine of Paris, that the therapeutic value of oxytuberculin had not been established by sufficient experimentation, a committee of the Cooper Medical College of San Francisco was appointed to institute an investigation and render a detailed report upon this remedy The committee has bestowed its unqualified endorsement of oxytuberculin and urged its extended use From a review of the published evidence presented to the committee, upon which its findings were based, I am unable personally to accept their conclusions, on the ground of insufficient clinical testimony The reported results of other observers, as far as I am able to ascertain, have since been quite unsatisfactory My own experience with various tuberculin preparations, save for occasional diagnostic purposes, has been limited to observation of results from their antecedent employment I have never considered the request of the patient for the use of tuberculin a sufficient justification for its administration, adjudging this to be in the same category with similar appeals for morphin or the performance of ovariotomy if contrary to the judgment of the attending physician Despite protestations to the contrary, from lay and professional sources, the patient is unable to assume the entire burden of responsibility in such cases

A very considerable number of cases have subjected themselves to my care, presenting the history of several months' daily inoculation with tuberculin preparations prior to arrival in Colorado In none of these have I been able to secure a statement of favorable results attending its employment, save in the occasional instances of conjoined climatic influence The record has almost invariably shown subsequent failure, which with the involved loss of time, in early stages, must constitute a factor of no mean importance It is manifestly fair, for the purposes of comparison, to allude briefly to those who have come under my observation, following the use of various tuberculin injections in Colorado under the same climatic conditions Admittedly a certain proportion of such cases should be expected to exhibit improvement from the climatic change irrespective of therapeutic management I have been rather surprised therefore, to note the generally unsatisfactory results attained by those in this class whom I have had opportunity to observe I can recall no instance in which, from a review of the history of the case after arrival, material improvement could be inferred to have taken place during the inoculations Of further significance, I can conscientiously report a marked gain in the majority of such cases upon cessation of special treatment and the observation of rational methods with strict insistence upon appropriate daily regimen

Relative to the reported experience with tuberculin preparations of some of my colleagues in Colorado, I can not refrain from the statement that I can see no justification for their employment in this State, nor any scientific value to be derived from such observations It is recognized by even their warmest advocates that their use should be limited chiefly to early cases It is precisely such cases that have been demonstrated to respond most readily to the favorable influences of the climate I submit the proposition that such cases, showing an exceedingly large percentage of improvement from climatic conditions, should not be lightly subjected to the influence of a powerful agent, the utility of which as yet remains undemonstrated by clinical experience or laboratory investigations I insist, also, that the improvement reported in early cases during the first year in Colorado is no evidence that benefit was derived from the coincident employment of serum-therapy Further, inasmuch as the use of tuberculin preparations is not considered to be generally applicable to cases with more extensive infection, there would seem to be still less excuse for its indiscriminate administration in Colorado in cases to which this means is not adapted according to its most experienced and enthusiastic supporters

It has been suggested by some that the moral effect, if nothing more, of daily inoculations should exert a favorable influence upon the pulmonary invalid This is presumably advocated from the apparent hopelessness of many cases, the inability for various reasons to enforce proper therapeutic management, and the desirability of producing a suitable impression upon the patient to the effect that definite means are being constantly employed for his relief I am convinced, from my own experience, that the moral effect of this is distinctly bad I have repeatedly had occasion to observe the increased susceptibility of pulmonary invalids to depressing or exciting influences The mental effect of the daily subjection of such patients to this procedure, with the prolonged confinement in the physician's office, with its incidental annoyances, must necessarily be disturbing and depressing Added to this, should be considered the enforced infringement of systematic management pertaining to an unbroken period of rest with as many hours daily of sunshine and of fresh air as possible, removed from the thickly settled portion of a city like Denver The trip to town, with its frequent delays, is sufficient to completely destroy the entire system of regimen for the half day at least, interfering with proper nourishment between meals, interrupting naps, or periods of rest, and affording varying degrees of physical exhaustion, with disquieting if not depressing mental influences

I have found it to be comparatively easy and infinitely more satisfactory to appeal directly to the intelligence of the patient by a judicious explanation of the situation, securing thereby a more active and hearty co-operation The personal influence of the local physician, with the establishment of confidence and trust, is calculated to produce an effect for good far greater than the moral influence of routine hypodermic injections

I present these very common-place remarks with much hesitation, but with the conviction that relative to a subject of such importance no harm can result from a plain statement of facts gathered from personal experience

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ACCIDENTS IN EYE OPERATIONS

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY F C HEATH, M D

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While it is more flattering to one's vanity to record successes, it is often quite as profitable to study failures and embarrassments, with a view to learning how to avoid or master them in the future It will be the aim of this paper to consider briefly a few accidents occurring in eye operations

Some years ago, as I was making a paracentesis on an Irishman's eye with a Graefe knife, the patient made a sudden violent movement on the entrance of the knife point into the anterior chamber A serious accident in this case was avoided by depressing the handle of the knife quickly so that the point could not injure the lens, but a good lesson was learned—*not to operate too soon after instilling cocain* A more serious accident occurred on attempting to do an iridectomy, without an assistant, on an intractable patient who moved her eye violently at the worst possible moment, causing considerable irido dialysis In this case two mistakes were made The first was in attempting to use the scissors with the left hand it is much easier to operate with the scissors in the right and forceps in the left hand I am inclined to think, however, that it is usually a mistake to do an *iridectomy without an assistant*, although I have many times done so successfully, and many will agree with Dr Reeves' statement at the Montreal meeting of the British Medical Association that "it is better to operate alone than to have unskilled assistance, if such a term can be used"

Of greater interest than these are my embarrassing experiences in three cataract cases, and they form the occasion for writing this paper In case first the combined operation was performed On cutting the iris the hemorrhage was profuse, the anterior chamber was soon filled completely and the blood could not be removed in the manner ordinarily advised, nor any other so far as I could see at that time The capsulotomy and delivery was therefore done in the dark, so to speak, and considerable cortical matter remained The blood was absorbed in a day or two and the eye healed rapidly, but the lens matter uniting with the capsule formed a secondary cataract This was left to nature, and while absorption was slow the patient ultimately obtained very useful vision Possibly using a cold compress for some time to cause the blood to coagulate, and then removing the clot with forceps, would have obviated all difficulty as to extraction of the lens in this case

Case second was most unfortunate This patient had the most deeply seated eyes I ever saw, which not only increased the difficulties of the operation, but made subsequent examinations very difficult and unsatisfactory, as the upper lid could not be raised without touching the inflamed eyeball Although the patient saw well at the close of the operation, and I could not see any lens matter remaining, I felt that

I had failed to make a complete delivery Later on some loose lens matter was found forcing apart the lips of the wound and was easily removed, but it had already set up a cyclitis which was followed by sympathetic inflammation of the other eye, necessitating enucleation of the exciting eye The result was particularly deplorable, as the sight in the remaining eye, upon which I had done a successful extraction the previous year, was considerably impaired There was additional disappointment, perhaps due to the fact that I had done double cataract extractions on two of his friends with a resulting vision of nearly 20/20 in each eye Earlier removal of loose lens matter might have prevented the cyclitis, and earlier enucleation would certainly have been better for the sight of the other eye, but this case was at a distance from me and could not be seen as often as I wished

In case third the nucleus of the lens with the thickened capsule dropped down into the vitreous, the capsule remaining attached above so that it swung as if upon a hinge Efforts to get hold of it and extract failed, although a properly made wire loop might possibly have been used successfully The eye was closed and a cool compress of cotton applied for a half hour, in the hope that the anterior chamber would refill and the lens float back into position, as it were At the end of that time, the aqueous showing no tendency to reform and the cornea remaining depressed or collapsed, the usual dressings were applied A little vitreous had been lost and its appearance indicated the occurrence of liquefaction At the end of twenty-four hours the anterior chamber was re-established and the lens had come up into place It was then a question whether to attempt its immediate removal or leave it to nature (supplementing what nature failed to do in the way of absorption by a secondary operation later on) The success of this course with case first, and the fact that the patient was a nervous invalid, led to the adoption of the latter plan The corneal wound healed kindly and there was but little iritis, slight adhesions below serving to fix the lens and capsule more firmly in place The iritis having subsided, we began to consider the question of a secondary operation, when the patient, who had long been an invalid, commenced to decline and soon died from causes having no connection with the eye or operation It is, therefore, a matter of speculation whether it would have been wiser in this case to have gone down into the vitreous with a wire loop immediately, or attempted the extraction of the lens remnant the day following, in lieu of the conservative course adopted I hope this phase of the subject will be thoroughly discussed

The text-books at my command say comparatively little about accidents in operations deSchweinitz gives the most, but even he does not cover all the points connected with such cases as I have here reported Of such accidents as the iris falling in front of the knife I have had no experience, nor have I ever lost much vitreous In one case only have I been compelled to enlarge my corneal incision The accidents mentioned in this paper have been the worst in my experience, but they have taught me such valuable lessons that I thought it might be more profitable to report them than my successes, hoping that the discussion thus introduced might bring out many points of value to those who feel there is yet something to be learned in this branch of our art

17 West Ohio Street

AN INEXPENSIVE 60-LENS OPHTHALMOSCOPE WITHOUT REKOSS-DISC

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7 10 1898

BY GEORGE M GOULD, M D

PHILADELPHIA

It is said that if within five years after graduation an oculist does not devise "A New Ophthalmoscope" his wife and intimate friends begin to make mysterious visits to the best alienists concerning the man s mental condition I have concluded that it will not do for me to hold out any longer The little device I show you today is designed to give the working oculist an instrument with double or treble the number of useful lenses in the ordinary ophthalmoscope, without the complicated and bothersome Rekoss-disc, without a handle, that does not need a case, and that is comparatively inexpensive The lenses are arranged in two sets independent of each other, each set in parallel continuous grooves or channels similar to the Morton instrument in this one respect Each set of lenses is propelled by a drive-wheel operating a toothed wheel for each of the two sets of lenses, this having a disc on which is the designation of the particular lens at any time before the sight hole The set of lenses in one end of the ophthalmoscope contains the lenses most used by an emmetropic oculist, and all the rarely-used lenses are in the set at the reverse end A highly ametropic oculist could have a different set of lenses placed in the most used end according to his personal needs The mirror, instead of tilting to either side, is reversible on its axis and thus can be placed at any angle desired for use when patients are in bed or with the light in any direction The mirror is readily taken out and inserted in either end of the instrument Side-illumination is excluded by a tube containing the mirror and the body of the instrument The instrument itself is used as a handle The arrangement of the lenses is as follows

At one Extremity (that most used)		At the other Extremity (that less used)	
Concave	Convex	Concave	Convex
		8 00	8 00
		8 50	8 50
0 50	0 50	9 00	9 00
1 00	1 00	9 50	9 50
1 50	1 50	10 00	10 00
2 00	2 00	10 50	11 00
2 50	2 50	11 00	12 00
3 00	3 00	12 00	14 00
3 50	3 50	13 00	16 00
4 00	4 00	14 00	18 00
4 50	4 50	15 00	20 00
5 00	5 00	16 00	25 00
5 50	5 50	18 00	30 00
6 00	6 00	20 00	
6 50	6 50	25 00	
7 00	7 00	30 00	
7 50		40 00	

The present crude instrument, the first one made, is designed to show its essential principles and methods, the finished instrument will be made of aluminum, and therefore much lighter in weight

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DEMONSTRATION OF AN "AUTO FUNDOSCOPE

Presented to the Section on Ophthalmology at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY GEORGE M GOULD, M D

PHILADELPHIA PA

The little device for which I have dared to coin the terrible word "Autofundoscope," is a very simple bit of mechanism, designed to slowly and accurately revolve a pin-hole through, and placed about two millimeters from, the center of a black rubber disc. The word should have been *autoretinoscope*, but as *retinoscopy* has been given another signification, *autofundoscope* is the only word left to designate the observation of the vascular system of one's own retina. The method essentially is the very old one described in books on physiologic optics of moving a pin-perforated card, held in the hand, before the eye, and observing an illuminated blank space through the perforation. In this way, however, one secures only faint, movable and indefinite images of the retinal vessels, which disappear and reappear with provoking rapidity. The common newspaper puzzle of revolving concentric alternate circles of black and white rings, when upon stopping the movement, the circles seem still to revolve, suggested to me this improvement and device. Both facts rest upon conditions explained in books on optics, which you well know—the position of the capillaries in front of the retina, the shadows they cast, the physiologic influence of fatigue, and the slight change in the position of the shadows affected by the revolving perforated disc. One may place the instrument, without the tube, five or ten feet from a brilliantly illuminated white card-board, and thus obtain a very fair and steady image of the macular region and the entire perimacular vascular system. A little patience and considerable care is needed to hold the eye very steady at the right angle, and to rotate the disc at exactly the requisite rapidity and uniformity to bring out the image most perfectly and immovably. Had I thought the experiment worth the expense and trouble, it would have been possible to provide an automatic clock-work mechanism much superior to the present crude device.

Physiologically the method is something more than a curiosity, as showing one the exact shape and relative dimensions of his yellow spot of Sömmering, or macular region, the comparison of the different picture of the two eyes, the perfection of the vascular supply of the retina, etc. I have been astonished to see how clearly the finest capillaries are seen, how much closer they penetrate to the macula than I supposed, etc.

I can imagine that the method may have use in demonstrations of pathologic conditions, but all such must depend upon the fact that it is only one's own retina that one can thus see. I have noticed in my own images certain opalescent spots in the perimacular space, invariable in each eye, though entirely different for each, in size, number and location. I do not know what causes them. They are not muscæ.

THERAPEUTIC VALUE OF SOME MEDICINAL AGENTS IN PHYSICAL DISEASES AND SOME PSYCHICAL TROUBLES

Presented to the Section of Materia Medica, Pharmacy and Therapeutics at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY T. B. GREENLEY, M.D.

MEADOW LAWN, KY.

It has occurred to me that a short sketch of the value of a few remedies I have used with good results in certain cases, might be appropriate.

First, I will speak of spirits of turpentine. I have found it to be one of the best antihemorrhagics I have used. I regard it almost as a specific in hematuria. Within the last year I have had some ten cases of this trouble. I give small doses frequently repeated, say fifteen drops at intervals of three or four hours. As a matter of convenience I give on sugar in a teaspoon, instead of preparing an emulsion. Of course, in order to aid the action of the remedy I freely employ dry cupping over the kidneys. Usually in twenty-four to thirty-six hours the bleeding is arrested. In hemoptysis, either from the stomach or lungs, it is an admirable remedy, especially so when due to trauma. I also use it in hemorrhage from the bowels and uterus. In the latter case ergot would greatly assist the turpentine. In oozing of blood from the surface of a wound, it is not only antihemorrhagic, but also antiseptic, and at the same time exerts some healing property. In cases of bowel affections, where flatulency is present, turpentine serves an admirable effect in its relief. The most painful and unpleasant symptom in typhoid fever is flatulency of the bowels. Turpentine in such cases is our best remedy. Beside removing the painful distension of the organs, it also serves as an excellent antiseptic. It is also a fairly good vermifuge. In old times when intermittent fevers were so prevalent in the Ohio valley, and quinin so high priced, and when I had so much charity practice to do, I studied up an antichill medicine, of which turpentine was the principal ingredient. It had the desired effect in arresting the disease. As quinin at present is so low in price, it is not worth while to speak of the formula.

In speaking of the virtues of turpentine, I do not wish it understood that I regard it a king cure-all, as some of the patent medicine proprietors assert their preparations to be.

Next I would mention ammonium chlorid as an alterative in certain hypertrophies, etc. I have used it in enlargement of the spleen and liver with very happy effect. A case of the largest spleen I ever saw was that of a lady about forty years old, who lived in a very malarious locality. The organ had extended considerably across the median line, producing quite a prominence of the abdomen. I put her on the chlorid and continued it several months. The spleen gradually became greatly reduced, relieving the patient of much discomfort from weight and distention. While using the chlorid, I had the patient apply irritants, such as tinct. iodin, turpentine, etc., over the abdomen, and two or three times drawing blisters with fly plasters. These agents were aided by adjuvants in the way of tonics and laxatives, as quinin, etc. The patient finally recovered her usual health.

I have also used the chlorid in hypertrophy of the liver with very happy results. In these cases, we have to use, aside from the alterative, such adjuvants as are indicated in each particular case. I was very much gratified by its use in a case of chronic pneumonia in a woman of some thirty years of age. Her acute attack occurred some six or eight months before I saw her. She was up and able to attend to her household matters, but complained of pain in her right side, and had a troublesome cough. On examining her I found consolidation of lower lobe of right lung. I put her on the chlorid of ammonia and blistered the surface over the part of lung involved. The suface was kept partially raw by repeating the plaster when necessary. At the end of four or five weeks the lung was restored to its normal condition. This treatment was aided by medicines to promote appetite and aid digestion, as tonics, etc The chlorid is one of my favorite remedies in sore throat, especially when it is accompanied with hoarseness I prepare a syrup of the following formula

℞ Ammonium chlorid
Sodium bromid
Chloral hydrate, aa ʒv
Syrupus simplex (½ pint) Oss
M and Sig Teaspoonful swallowed slowly

This syrup also serves as an admirable cough medicine In taking it for sore throat it should be swallowed slowly, as before remarked, and nothing else taken for some ten minutes or more, so as to afford time for its local action on the mucous surface of the throat

In irritable cough due to the effect of cold, in bronchitis or phthisis, where sleep is greatly interfered with, this syrup will be found a most admirable remedy On retiring take a teaspoonful and if not relieved in fifteen or twenty minutes repeat the dose, and as a rule, in a short time rest and sleep will be secured I keep this syrup, already prepared, in my office, ready to dispense in all such cases as those alluded to In cases where the cough is tight, I add a little syrup of ipecac to each dose

When a man practices medicine over fifty years it is not an unusual thing for him to have some favorite remedies or you might say hobbies in medicine I must acknowledge I am one of the old time fogies who believe we can not with safety lay aside our old pharmacopeial remedies for the late preparations in pharmacy, although I am not prejudiced against them and frequently use some of them

In some instances we can, with advantage, combine some of the preparations I have been fortunate in this respect in combining two of the chlorids as a quick alterative Some fifteen years ago I was called to see a child with membranous croup The little thing was in its mother's lap, gasping for breath, with sinking at the upper and lower end of the sternum I told its mother the baby was virtually dying She begged me to do something, and to gratify her I put up some medicine I had never used before in that disease, but told her I had no hope of relieving the child, as I had seen only one case in over thirty-five years get well I combined the protochlorid of mercury—calomel—with the chlorid of ammonia, one grain each, in powders to be given every two hours, the child being about fifteen months old It was in the morning, and I told the mother if the child lived through the day and night to let me know next morning When I saw her little boy coming to the house, I supposed he was sent to let me know the patient was dead, but happily, on inquiry, he informed me it was better and wished me to see it again I very gladly answered the request and found my patient greatly improved, in fact out of danger

Since then I have treated six other cases of the disease in the same way, with the same happy results I omitted to say that in conjunction with the internal remedies I had a towel, kept wet with warm water, applied around the child's neck, so as to keep the parts relaxed The only case of true croup I ever saw recover, before the widow's child above spoken of, was treated by the method recommended by Dr Green of New York, over fifty years ago He, with a piece of sponge fastened to the end of a whalebone probang, dipped into a strong solution of nitrate of silver, introduced it into the child's glotis I only tried this treatment in one case, the one before alluded to, and never had the heart to repeat it The treatment and its effect was explained to the parents, and as the child was nearly moribund, they requested me to do anything that offered any possible chance to save its life Dr Green had reported several cases cured by this plan of treatment In speaking of my plan of treating croup, it was feared by some that bichlorid of mercury would result, by the combination of the two chlorids, but I have never observed any unpleasant effects resulting from their union

In old times, as a general thing, we treated croup with emetics, syrups, etc, but only to look on and wait for death to relieve the patient Fortunately, membranous or true croup is comparatively a rare disease

Respecting the medicinal virtues of nux vomica, I have used this agent in the form of normal liquid, mostly, as a tonic and alterative, for many years I use it as a heart tonic in most cases of debility of that organ, in preference to the ordinary heart tonics, such as digitalis, strophanthus, convallaria, cactina, etc In cases of rapid action of the organ, digitalis for a short time might be preferable I also give it in debility of the muscular coats of the stomach and bowels, resulting in dyspepsia and constipation By toning up the muscles of these organs, relief is afforded in many instances I have also relieved paralysis of the bladder in a short time with nux and belladonna I have relieved one case of locomotor ataxia with these two remedies It was in the early stages of the disease

In regard to fads in medicine, I might say a few words respecting a favorite prescription I use in diarrhea I have used it for this trouble for several years, and find it almost a specific, especially so in summer complaint of children It is as follows

Paregoric	℥ ij	62	206
Ext witch hazel	℥ j	31	103
Carbolic acid	ʒ j	3	887
F Ext Kino	ʒ ij	7	775
Jamaica ginger	ʒ ij	7	775
Precipitated chalk	℥ j	3	887
Simple syrup to make	℥ viii	248	82

Mix thoroughly and always shake bottle well before dosing For an adult a teaspoonful is a dose, to be repeated at intervals of three hours, until desired effects result Dose for children in proportion to age

Perhaps I have said enough respecting favorite remedies, and will say a few words in regard to medicines which prove to have psychologic effects, or cure imaginary diseases It is frequently the case that such troubles come under our observation I am at times at a loss whether to term these cases psychologic or due mainly to credulity Sometimes I think a great many people are hypnotized by their credulity in the virtues of certain so called remedies, and will take them for months, or even years, for imaginary troubles In some cases of this character the so called remedy, by its long continuance, produces derangement of some organ or organs, if not actual disease I have known cases of this character We are occasionally puzzled how to treat successfully some cases of hysteria Patients of this class are easily affected by suggestion, and when we thoroughly acquaint ourselves with their peculiarities, we are much better enabled to manage them You have, in a great measure, to treat the mind In the first place gain their confidence that you can cure them I recollect having a case years ago, a girl about twenty years of age who was laboring under the belief that she was paralyzed in one leg and arm These spells of paralysis, I soon discovered, were intermittent in character When I learned this and got the run of her symptoms, as expressed by herself and her mother, I assured her that I could cure her I put her on a simple plan of treatment and requested her mother to be very particular in observing my directions I did this in her presence, laying a good deal of stress on small matters, such as massage of the parts diet, etc On my next visit she was a great deal better of the paralysis, but had a spell in the night different from any she had before Her mother described the symptoms to me in her presence and wished I had been there to see how she was affected I was well satisfied that after her mother's description of the attack in the night, I would soon see it repeated Sure enough in less than an hour a similar spell came on, which was of a convulsive character After it was over I called her mother aside and charged her not to speak of her case in the presence of any one again, as it was a suggestion to the patient to repeat the symptoms On my assurance that she would get well by observing my directions in every particular and that she would be well by the time I came back in two days, she was satisfied and was all right on my next visit

I might speak of another case of hysteria in a young woman who came to the conclusion she could not speak above a whisper She was apparently in good health otherwise I put up a little medicine to be taken at regular intervals, with a solution to be applied to her throat with a feather, at the same time she took the medicine and also used external applications, assuring her that by following the directions strictly she would be able to talk when I returned She was all right on my next visit She had not talked above a whisper for two weeks More cases of a psychologic character might be mentioned, but those alluded to are sufficient for the present occasion In fact we should, to some extent treat the mind in a majority of cases There are many patients of a more or less nervous temperament laboring under physical ailment, where assurance to the mind that they will get well is of great benefit

We as regular medical men, have now and then been charged and in some cases truthfully of administering bread pills in cases of imaginary diseases But our homeopathic friends can beat us two to one in hypnotizing a patient when there is not much the matter They will put up their granules of charcoal, chalk or sulphur and tell the patient to take them at regular intervals and strictly obey the directions about diet etc and he will certainly get well The assurance of getting well and the observance of the dietary are the elements of success in such cases It would be a good thing on our part if we would treat the minds of our patients more carefully than we do

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Salophen in Articular Rheumatism —The gastric disturbances that frequently follow the prolonged use of sodium salicylate in rheumatism, can be avoided if after three to five days' treatment, and the disappearance of the principal morbid manifestations of acute articular rheumatism, salophen is substituted, giving 2 to 3 grams a day Salophen passes through the stomach unchanged, to be split into salicylic acid and acetylparamidophenol in the intestines, and can be administered without inconvenience until all fear of a relapse is past.—Professor Mosler of Greifswald, *Semaine Méd* , Sept. 7

THE SULPHOCARBOLATES

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY WILLIAM F WAUGH, A M , [illegible]
Professor of Practice etc Illinois Medical College [illegible] cago Summer School of Medicine
CHICAGO ILL

The earliest mention I have been a[illegible] of the sulphocarbolates as remedial agen[illegible] som, in the *Practitioner*, iii, 5-13 1869 Pap[illegible] him upon these salts also appear in the *British Medical Journal* in 1870 and in the Transactions of the Obstetrical Society of London, 1870-71 Sansom claimed that the sulphocarbolates were beneficial in phthisis typhoid fever and the eruptive fevers especially scarlatina for which he considered them specific

Subsequently papers upon these salts have been contributed by Q C Smith (*Nashville Journal of Med and Sur*, 1878) D Cerna (*Philadelphia Med Times*, 1879-80) Withers (*Dublin Jour of Med Sciences*, 1880), H P Farnham *Medical Record*, xxiii, 8, 1883), and F Vigier (*Bull et Mem Soc de Thera* 1884) Since the latter date there have been few papers listed under this title but every year sees an increasing number of references to the sulphocarbolates in the treatment of various affections

Leading manufacturing chemists furnish the carbolates of zinc, soda, lime potash and ammonia The sulphocarbolate of zinc, $Zn(SO_3C_6H_4OH)8H_2O$. is prepared by decomposing barium sulphocarbolate by zinc sulphate filtering off the barium sulphate and evaporating It forms beautiful white crystals when pure It is soluble in twice its weight of water or of alcohol and has no acid reaction The aqueous solution becomes violet on the addition of ferric chlorid should yield but a slight turbidity with barium nitrate is unaffected by ammonium oxalate or by sulphuric acid, and after precipitation by an excess of ammonium sulphid the filtrate on evaporation and ignition should yield no residue Heated to redness it yields 14 6 per cent of zinc oxid

My attention was attracted to the value of zinc sulphocarbolate in 1881, by Dr C L Mitchell who found it of much merit as a local application The first use I made of it was in the various forms of summer diarrhea, especially in cholera infantum In this affection I had noted the coldness of the extremities with heat of the forehead and the epigastrium, contracted pupils and small rapid pulse, with profound depression of the vital forces Precisely similar conditions are manifested in nasal diphtheria, excepting the epigastric heat and yet all these subside promptly when the nasal passages have been thoroughly cleansed and the absorption of toxins generated in the nasal passages has stopped The radical and immediate change for the better following such a cleansing by hydrogen dioxid solution had made a strong impression upon me, and when I noted the same aggregation of symptoms in cholera infantum, it was obvious that the cause was here also a toxin absorption, and that the long sought remedy was to be found in the antiseptic group

The first experiments were made with much difficulty The sulphocarbolate was generally so impure that half a grain excited local irritation and vomiting But when the chemically pure salts were obtained it was found that a child in the second summer could take from one-half to one grain every half hour with impunity, and with this dosage the method at once gave evidence of its value So remarkable has been the change effected by this remedy that it is now more than fifteen years since I have had a child die of cholera infantum, and I am convinced that the circumstances must be rare in which a child properly fed, with proper attention to the sanitary condition of the premises, and treated with the sulphocarbolate of zinc, will yet die of cholera infantum

From this was readily deduced the employment of the same remedy in all other affections of the alimentary canal attended with decomposition or fermentation, as evidenced by fetid or unhealthy stools, and the symptoms now known to be due to autotoxemia from fecal absorption The importance of this principle in the genesis of symptoms manifested in the nervous, circulatory or respiratory system, or in any other part of the body, is beginning to be realized, and would probably degenerate into a "fad," if such enthusiastic adoption ever occurred to a truth But it is only such discoveries as Perkins' tractors, Bergeon's gas inflations, and tuberculin, that receive the instant and unanimous approval of the public Truths, like vaccination and intestinal sepsis, must fight their way to acceptance

The next trial of the sulphocarbolates was in typhoid fever It requires, on an average, forty grains daily to render the stools of a typhoid patient odorless, but in some instances it has required 120 grains daily This amount is easily taken and does not irritate, if a pure salt is employed As a rule, I prefer to give it in powder, with a few grains of bismuth subnitrate, or in the pills made by the Upjohn process When the stools have become inodorous, the following alteration has occurred in the condition of the patient The diarrhea, tympanites, pain, tenderness, distention and gurgling in the abdomen have ceased, the aching of the head and the muscles, nocturnal delirium and ataxic symptoms have disappeared, the tongue has become moist and clean, the appetite has returned, the mind is clearer, and the temperature has fallen from one to two degrees In fact, the case has been reduced to the category of the mild form, the temperature falling below 103 degrees, the point at which advocates of the Brand method employ cold baths Many cases are aborted, and of those in which the physician is called so early that a diagnosis is not sure except by bacteriologic methods, but where the conviction is that we are dealing with the initial stage of typhoid, nearly every case is stopped within four days If, as I believe, the action of zinc sulphocarbolate is limited to the alimentary canal, the symptoms relieved by the administration of this drug are fairly to be attributed to absorption of toxins from the bowels, and the attack is reduced to the direct effects of such bacteria as have migrated beyond the alimentary canal before the drug is given

These effects are as uniform as those of any drug given as medicine they have been noted in numerous cases, without a single exception The proof is so easy and so complete that it only remains to explain how these effects are produced It seems evident that the zinc is not a germicide, that it acts by preventing the multiplication and functioning of micro-organisms, rather than by directly destroying them Indeed, it seems doubtful if any germicide can be introduced into the alimentary canal in sufficient strength to kill bacteria and yet not injure patient But the bile does not kill spores, and the absence of the bile occasions a large part of the symptomatology of all febrile diseases Fever checks the secretion of bile and this, with the increased heat and lowered vitality favors the action of micro-organisms in the whole alimentary canal The food, not properly digested, also decomposes more readily than in health, and this adds another element It follows, then, that in every febrile affection intestinal sepsis and autotoxemia are necessarily present and furnish a share of the symptomatology Hence the use of the sulphocarbolate is indicated in all fevers, not alone those that have their focus of operations in the bowels, like typhoid In pneumonia for instance, a reduction of the temperature and a corresponding amelioration of the symptoms follow the sulphocarbolate antisepsis, and this method may be prophylactic also, as it is known that the pneumonia is especially fatal if vomiting and diarrhea complicate it

This brings us to the latest development of sulphocarbolate therapy—its use in tubercular phthisis As the salt had reduced the temperature so certainly in all other forms of febrile disease, I concluded to give it in a case of pulmonary tuberculosis, with countless bacilli, high fever—104 degrees and over—and the nausea, anorexia, indigestion and diarrhea usual in such severe cases The patient improved at once, the fever dropping to 100 or 101 degrees, and the gastro intestinal symptoms completely disappearing, leaving the patient with the appetite and digestion of a plowboy As other remedies were employed, I can not credit the cure, in this case, to the sulphocarbolate alone, but as Dickson used to say that we could cure consumption when we learned to control the digestive difficulties, I am sure the sulphocarbolate contributed largely

It may be asked Since the sepsis and consequent toxemia are largely due to the diminution of the biliary secretion, why not restore it? Our fathers relied on calomel, and by its help flooded the bowel with nature's own antiseptic But there are *a priori* objections to this Nature sees fit to reduce to a minimum the action of the liver in all febrile diseases We do not know the reason for this, any more than we knew the importance of the thyroid gland a dozen years ago, but it is the part of wisdom not to interfere with the course of nature unless it is unavoidable, and especially when we do not comprehend her processes Since we do not know why the activity of the liver is reduced during fever, we had best let it alone, but we know very well the effects of intestinal sepsis, and hence, we interfere to prevent them Besides, the results of actual trial have shown that we can accomplish our object far more effectually, safely and pleasantly by the exhibition of the sulphocarbolates than by the use of cholagogues

As to the choice between the sulphocarbolates and other antiseptics, there is this to say the sulphocarbolates are extremely soluble Bouchard prefers naphthols on account of their comparative insolubility, believing that soluble salts leave the intestinal canal too soon to render it aseptic in its entire course But the action is strictly chemic, and he fails to inform us how a chemic antisepsis is to be secured without solution of the reagent It appears probable that the good effects of the naphthols are really due to the [illegible] that is dissolved Besides, in numer- [illegible] the h[illegible] [illegible]rance of the [illegible]hols [illegible] [illegible]e stool [illegible]d

Salol breaks up into salicylic and carbolic acids and in full doses is apt to produce hemoglobinuria The same objection holds good against all the carbolic derivatives, except the sulphocarbolates I have given these salts to many persons and never saw nor heard of a case of hemoglobinuria The iodic antiseptics occasionally cause iodism, even in small doses Eczematous individuals especially appear to possess the power of setting free iodin from iodoform, europhen, etc The biniodid of mercury has been strenuously advocated by Illingsworth, and the action of copper arsenite upon the duodenum demonstrated by Aulde, while mercury bichlorid has also its advocates But the highly toxic character of these and similar antiseptics confines their use within narrow limits The volatile oils, various chlorin preparations, sulphurous acid, hydrogen dioxid and potassium permanganate, are among the other antiseptics that have been urged for internal use, but the objections to all, for indiscriminate prescription, are obvious It is, however, notable that good effects have been obtained from many agents of this class The principle is of wider applicability than that of any agent in the group

The sulphocarbolates labor under the disadvantages of being common and cheap—they cost about 60 cents a pound, as against a dollar an ounce for the proprietary articles, they can be prepared by any manufacturing chemist, and have no commercial interests to push them, and finally, they have no name great in the councils of medicine to back them up Deprived of the potent support of printers' ink, they rest solely upon their merit, without puffing, and on this basis have won a place in the armamentaria of thousands of physicians to whom utility is the only incentive to the employment of medicine

I have only spoken of the sulphocarbolate of zinc, but there are two other salts of this group that deserve notice Sodium sulphocarbolate may be given in doses of 20 to 30 grains The bodies of animals to which it has been given resist putrefaction for a ong time It has been recommended as a remedy or vomiting, for fermentative affections, and for eudo-membranous diseases, with gangrene or neosis, such as scarlatina and diphtheria Several eports appeared some years ago as to its value in these affections J W White pronounced it antacid, stringent, sedative, styptic, antiseptic and disinfectnt The sulphocarbolate of lime is also quite free from local irritant effects, and somewhat more antiseptic than the soda salt Of the three, I prefer the zinc when a strong and certain effect is required, as in cholera infantum, typhoid fever, or marked intestinal sepsis the soda sulphocarbolate, when the stomach is irritable, for milder forms of sepsis, or when an antacid is also indicated, the calcium sulphocarbolate for strumous or tubercular cases, or any other in which the reconstructive effects of lime are required, or where other lime-salts are indicated These three sulphocarbolates have been combined in tablets, and for indeterminate cases these have fulfilled every requirement, being effective and non-irritant

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Transplantation of Stenson's Duct —In a case of recurring fistula, Goris opened up the duct from its starting point to its termination in the mouth, which he detached from all adherences, excising all the surrounding connective tissue He then fastened it with a couple of stitches behind its natural location, endermic suture of the cutaneous incision Recovery was prompt and by first intention —*Presse Méd*, September 3

INCOMPATIBLES

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY E A RUDDIMAN, PH M, M D
SCHOOL OF PHARMACY VANDERBILT UNIVERSITY NASHVILLE, TENN

To the practitioner, as well as to the patient and pharmacist, the prescription is an object of importance Upon it the welfare of each one of these more or less depends If it fails the mission of the physician and of the pharmacist fails Heretofore, schools and colleges of medicine have not laid sufficient stress upon the combining of medicines Within the last few years there has been a change for the better, and the graduates at the present time know more than did the graduates of a few years ago However, even yet it is the exception rather than the rule to meet a young man who knows more than a little about writing prescriptions, and he may consider himself fortunate if he knows more than a little about the individual ingredients of the prescription It is not his fault, but that of his professors, that he is not better prepared for this part of his work The student, while in college, should be so thoroughly drilled in combining the best preparations in the best way that it will come naturally to him to write a correct prescription from the start

The mere writing of a list of substances is not all that is necessary for a good prescription In the first place, the physician must have diagnosed the case properly, and when he has determined what drugs will probably meet with the best success, he must choose what individual preparations will go together with the best result It is in choosing the preparations that he so frequently fails Let me illustrate with a single example Suppose it is desirable to give tincture of chlorid of iron, strychnin sulphate, some preparation of arsenic and some preparation of cinchona, with the syrup of orange as a vehicle Naturally the physician would choose Fowler's solution and a tincture of cinchona In filling such a prescription there is danger of the alkali in the Fowler's solution precipitating the strychnin, the alkaloids in the cinchona and also the iron, and the ferric hydrate thus precipitated would combine with the arsenic to form an insoluble compound And again, the tannin in the cinchona would combine with the iron, forming the black, inky, ferric tannate In place of Fowler's solution the solution of arsenous acid should be used, it having the same physiologic effect and being of the same strength, but acid in reaction In place of the tincture of cinchona there should be used quinin sulphate, or some such preparation as the National Formulary compound elixir of quinin, or the detannated tincture of cinchona

In writing a prescription the physician must bring into use his knowledge of materia medica, therapeutic, physics, chemistry and pharmacy No single one of these divisions will give him the requisite information, he must know therapeutics, in order to avoid physiologic incompatibility, he must know pharmacy and the physical properties of drugs in order to avoid pharmaceutic incompatibility, and he must know chemistry to avoid chemic incompatibility

Perhaps the two great stumbling blocks to the physician in this line are pharmacy and chemistry Without a knowledge of both he is at sea His only safeguard is to prescribe one or at most two substances together This is no doubt desirable sometimes, although not always I have had medical students ask me what good it will do them to spend so much time on these subjects My answer has been to study assiduously now and they will know the use hereafter That actual harm has sometimes come to patients from taking incompatible prescriptions is a fact beyond dispute, and we have the watchful pharmacist to thank that there are not more such cases And even though no ill effect may result from an incompatible mixture, frequently no good comes from it, and we blame our books, the drugs, and the pharmacists for not getting the results that we expected, when our ignorance of pharmacy and chemistry is the cause No doubt we have all had our nerves somewhat rudely shaken by being told that a pet combination of ours is rendered either dangerous or inert by chemic reaction

A few general rules can be given in regard to what will form incompatible mixtures, but the majority of cases must be learned as isolated facts These general rules are given in nearly every book on materia medica as fully as I could give them in such a paper as this Many times we see the bare statement that two substances are incompatible, and to know this and nothing more is unsatisfactory and frequently useless Because chemic reaction takes place, it does not necessarily follow that the mixture should not be prescribed, or that the products formed will not have a similar physiologic action We should know what changes occur and what compounds are produced, otherwise how can we tell what the effects will be? Will the action of a mixture of spirit of nitrous ether and potassium iodid be the same as either or both taken separately? Or is the effect of an application of a mixture of lead water and laudanum similar to the effect of these preparations when applied separately? Are the effects of the green isonitroso-antipyrin what are wanted when antipyrin is prescribed with spirit of nitrous ether? Then let us not denounce the pharmacist as having worthless preparations, or accuse the physiologist of having made mistakes in regard to the actions of medicines, until we know that the failure is not due to incompatibility

The number of incompatibilities is one which will increase rather than decrease with time With the advent of nearly every new remedy the number is increased Particularly is this true of the new synthetic compounds with which the country has been flooded for the past few years Physiologic incompatibility does not occur in a prescription nearly as frequently as chemic or pharmaceutic This is not because the physician has given this part of the subject more consideration, but due partly, at least, to the fact that he is not generally tempted to put into the same prescription remedies that are antagonistic

To become convinced that the subject of incompatibility is one which has not received the attention which its importance demands, we have but to glance over the appended prescriptions, which are a few of those to be found in standard works on medicine and therapeutics When our best authorities fall into such errors, it is not to be wondered at that the beginner should make many mistakes Those of us who come in contact with students in medical colleges should give more instruction along this line It is one of the weak points in the curriculum of many colleges A neglect of this subject by a physician means a continual menace to the life of his patient

℞ Collodii,
Spt ammoniæ,
Tinct iodi, āā part aeq
Sig —Paint over part with a camel's hair brush
—Potter's Mat Med and Ther , 6th ed , p 716

In this prescription the iodin is changed chiefly to ammonium iodid with a little ammonium iodate Did the prescriber know this and did he wish to get the action of these instead of the action of iodin?

℞	Hydrarg iodid viridis	gr 3/4	0485
	Potass chlorat	gr iij	1943
	Potass iodid	gr 3/4	0485
	Chocolate, q s		

M —Ft in tabellum No 1
—Hare's System of Prac and Ther , Vol ii, p 160

In the presence of moisture the potasium iodid reacts with the mercurous iodid, causing the formation of metallic mercury and the much more active mercuric iodid (the red iodid of mercury) The potassium chlorate in the presence of a mineral acid, as the hydrochloric acid of the gastric juice, causes the iodin to be set free

℞	Hydrarg chlor corrosiv	gr ss		0324
	Potassii iodidi	℥ ss	15	555
	Decocti cinchonæ	fl℥ viij	236	195

S —Fl℥j ter die post cibum
—Farquharson's Ther and Mat Med , p 334

The potassium iodid combines with the corrosive sublimate and forms first the red iodid of mercury, and then combines with this to form the soluble double compound—potassium mercuric iodid This double compound combines with the alkaloids of cinchona in the decoction and forms a precipitate The danger in this prescription lies in the mercury being thrown out of solution Did the physician realize that it is possible for the patient thus to take most of the mercury at one dose?

℞	Sodii sulphitis	ʒ ij	7	775
	Sp ætheris nit	℥ ss	15	555
	Liq ammon acet	℥ iij	93	309
	Aq dist	℥ ij	62	206

Mix —Sig Teaspoonful every two hours
—Hare, Vol ii, p 391

The spirit of nitrous ether is decomposed, giving off the gas, nitric oxid, and part of the sodium sulphite is changed to sodium sulphate

℞	Hydrargyri	gr 1/8	008
	Iodini	gr 1/2	0323
	Ac tannici	gr [illegible]	0388
	Glycerini	m xv	0615

M
—Hare, Vol ii, p 125

The iodin will change the mercury to mercuric iodid The tannic acid will change part of the iodin, with the formation of hydriodic acid, which will further combine with the red iodid of mercury

R	Tinct. ferri chloridi	ʒ ij	7,775
	Acidi sulphurosi	ʒ j	3 887
	Potas chlorat	ʒ j	3,887
	Glycerinæ	℥ ss	15,555
	Aq calcis , q s ad	℥ iij	93'309

Misce Dose one teaspoonful every hour to two hours for a child of three years
—Smith's Diseases of Children, 6th ed , p 321

On adding the sulphurous acid to the tincture of iron the mixture becomes of a much darker color at first and then nearly colorless The glycerin may now be added and then the potassium chlorate dissolved in the water There is barely a sufficient amount of water to dissolve the chlorate, and after mixing with the ingredients some of the salt is thrown out of solution by the alcohol in the tincture The possible reactions are as follows 1, Between the ferric chlorid and sulphurous acid, forming ferric sulphite and hydrochloric acid, 2, the ferric sulphite thus formed changes to ferrous sulphate, 3, between the potassium chlorate and the hydrochloric acid in the tincture, forming chlorin, 4, between this chlorin and the ferrous sulphate, forming ferric sulphate and hydrochloric acid, 5, between the chlorin and the sulphurous acid, forming sulphuric and hydrochloric acids, 6, between the chlorin and the glycerin, 7, between the potassium chlorate and the sulphurous acid, forming potassium sulphate and hydrochloric acid, 8, between the ferric chlorid and the lime water, forming ferric hydrate and calcium chlorid, 9, between the sulphurous acid and the lime water, forming calcium sulphite

Did the prescriber determine beforehand what products would be formed and that these were the compounds whose actions were wanted?

GLANDULAR EXTRACT

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY ISAAC OTT, M D
PROFESSOR OF PHYSIOLOGY MEDICO-CHIRURGICAL COLLEGE,
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EASTON PA

Glandular physiology in its widespread ramifications has revolutionized many parts of physiology and pathology It is only in its infancy and its maze of metabolic changes holds many facts to be discovered The secretion of the ductless glands opens up new avenues of investigation, which will enrich the science of physiology and the practical application of these facts in therapeutics We have a silent and hitherto unsuspected secretion going on which plays a most important and unknown part in our economy Very potent remedies are the ductless glands, where but a few thousandths of a grain of a gland like the pituitary greatly elevates the arterial tension I have made over one hundred experiments upon the lower animals with the various extracts obtained from Armour & Co of Chicago The experiments upon the reflexes were made upon frogs, those on pulse pressure, respiration and temperature upon rabbits The results were as follows

Adrenals—The adrenals caused an increase of reflex activity, which was as fugitive as the rise in arterial tension It also depressed the pulse rate The rise of blood-pressure was due to an action upon the walls of the artery It decreased the rate of respiration

Pituitary—It depressed reflex activity for a short period, reduced the heart-beat and elevated arterial tension This elevation was due to an action upon the arterial wall The respiration rate was increased by it

Spleen—The spleen diminished reflex action It also depressed the pulse and temporarily the arterial tension Afterward the arterial tension increased It had an unusual action in increasing the peristaltic movements of the intestine The respiratory movements were also increased

Iodothyrin—It had no general action upon frogs Upon the pulse-rate and arterial tension it had no marked effect, except a slight increase of pulse-rate at times It increased the respiratory movements

Thyroid—In the frog it depresses the reflexes It lowers the blood-pressure and heart-beat It accelerates the respiratory movements

Pancreas—It decreased the pulse and arterial tension

Testicle—It lowered the pulse and slightly increased the arterial tension

Upon the temperature nearly all these agents caused an elevation

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THE WOUNDED OF THE PORTO RICAN CAMPAIGN

BY N SENN, LIEUT COL U S V
CHIEF OF THE OPERATING STAFF WITH THE ARMY IN THE FIELD

The Cuban and Porto Rican invasions have confirmed the experience of the past in showing that the greatest horrors of war are caused by disease and its consequences rather than the implements of destruction If the battle-grounds are in the extreme north or south, climate enters as an important factor in decimating the ranks and in increasing the sufferings of the contending armies A war of invasion requires more preparation, foresight and forethought on the part of those who plan and conduct the campaign than one of defense, a fact we have been painfully made aware of during the last two months The more remote the seat of conflict, the more difficult the task of providing food and clothing for the army, and the more serious becomes the problem of properly caring for the sick and wounded, and the greater becomes the difficulty in returning the survivors to their homes Nostalgia, a very common affection among unseasoned troops, becomes more prevalent in proportion to the distance between home and the seat of war, as we had abundant opportunities to observe during the late war The depressing effect of this common ailment has a decided influence in increasing the rate of mortality of the sick and wounded, and in impairing the effectiveness of the fighting line Nostalgia is a contagious disease, not in the sense we use the word contagion ordinarily, but when once established in camp it increases rapidly by suggestion The onset and spread of this common ailment of camp life are promoted by interruptions of the mail service, the only medium of communication between the soldier in the field and his distant home Among the many sins of omission of those in charge of the management of the late war was a glaring neglect to provide for the much-needed and anxiously looked for mail facilities If those who have the management of this branch of the government service in charge could be made to understand what an occasional letter will do in keeping up the spirit of the citizen soldier, nostalgia would have been less prevalent and its effects less disastrous during the late campaign From the time I left Fortress Monroe for Cuba, July 3, and until I arrived in New York from Porto Rico, August 19, I received only two letters of the probable two hundred sent to me during this time In summing up the casualties of the war just ended, it is safe to make the statement that the number of killed and the number of deaths resulting from the immediate effects of wounds will not exceed 280 The number of wounded will in all probability reach 1425 The number of deaths from malaria, dysentery, yellow fever and typhoid can not be estimated at this time, as these diseases are still prevailing and will claim many victims before the troops are recalled The loss of life and the suffering as well as disability, as a claim for pension, caused by disease and the effects of climate will exceed by far those caused by Spanish bullets During the Porto Rican campaign no pitched battle was fought The force of the enemy in all of the skirmishes was small and in ambush Only a few were killed and not more than forty were wounded Among the wounded, bone injuries were rare, many of the wounds slight All of these cases tend to confirm previous observations to the effect that the small caliber bullet of the Mauser rifle, the one used exclusively by the Spaniards, causes wounds of the soft parts, which if left alone under the first dressing, will heal by primary intention in the course of a week or two, unless complicated by serious visceral injuries All of these cases corroborate the statement previously made that the small caliber bullet does not infect the wound and that it seldom carries with it into the tissues clothing or other infectious substances This observation, so abundantly supported by substantial facts, is an extremely important one for future field service, as it must satisfy the military surgeons that such wounds will heal promptly if left alone under the first-aid antiseptic dressing On the other hand, I have seen the evil consequences following meddlesome surgery in the form of unnecessary probing Such wounds are very susceptible to secondary infection caused by the use of the probe For the purpose of again calling attention to the humane nature of the modern weapon, and with a view of showing how rapidly wounds inflicted with the small caliber bullet will heal under the most conservative treatment, I will report briefly the nature of the wounds and the results of those wounded in the Porto Rican war

Case 1 —Lieut J C Byron, Troop F, Eighth Cavalry, wounded in the skirmish near Mayaguez, August 10 The bullet passed through the foot from side to side on the dorsal aspect, making a groove on the upper surface of the second and third metatarsal bones without fracturing them Healing by primary intention under the first dressing He was in the saddle when injured

Case 2 —Lieut John Haines, Battery F, Third Artillery, was wounded in the attack on Aibonito, August 13, and is probably the last man shot by the Spaniards during the invasion of Porto Rico He was in the advance of the line, with his battery planted on a high hill in full view of the enemy After firing the number of shots ordered, the gun was turned, and at this moment a bullet struck him in the left lumbar region, postaxillary line, and escaped about the sixth intercostal space, anterior axillary line on the same side No indications of bone injury or penetration of the chest The wounds were dressed in the field and healed by primary intention He was conveyed in an ambulance from the front to Ponce a distance of twenty miles, and transferred to the hospital ship *Relief* At no time has he suffered much from pain or even a sense of discomfort which could be referred to the wound The patient must have been in a stooping position the moment the injury was received

Case 3 —Lieut T H Hunter, Battery B, Fifth Artillery, was accidentally shot by one of his own men by a Krag Jorgensen bullet, which entered the right side of the ilium, passed downward and backward, emerging from the gluteal region on the same side below the ramus of the ischium The course of the bullet excluded bone injury in this case Notwithstanding the length and depth of the tubular wound it healed rapidly by primary intention The indications are that the patient will recover without any functional impairment of the parts implicated in the injury

Case 4 —William H Walcutt Company E, Fourth Ohio Infantry, was wounded in the skirmish near Guayamo, August 8 The bullet entered the plantar surface of the left foot between the first and second metatarsal bones, at the junction of the middle with the distal thirds and escaped from the dorsal side, at a point a little nearer the distal side From the course of the bullet it is clear that he was running in a direction opposite to the enemy when the shot was fired The wounds were healed a week after the injury was received

Case 5 —William J Edgington, Company A, Fourth Ohio Infantry, was wounded during an engagement, August 8 The wound of entrance was at a point two inches to the left of the median line on a level with the sacro coccygeal joint, the wound of exit at the base of the opposite thigh over its inner and middle aspect, directly over the adductor muscles No evidence of any serious visceral injury of any of the pelvic organs The temperature remained normal, the wounds healed by primary intention, and when I examined the patient in the hospital at Guayamo, five days after the injury was inflicted, the patient was free from pain and able to leave his cot without assistance The course of this bullet explains the position of the patient at the time the bullet reached its unwilling moving mark

Case 6 —Noble W Horlocker, Company C, Fourth Ohio Infantry, was wounded in the same skirmish The bullet entered one inch in front of the right malleolus and escaped two and three fourth inches below and a little behind the external malleolus Although the bullet must have passed through the ankle joint and the astragalus, the injury was followed by very little pain, except on moving the ankle joint, and no indication of infection had set in five days after the injury was received It is reasonable to expect that the wounds will heal by primary intention, and that the patient will recover with a useful movable ankle joint

Case 7 —Stewart J Mercer, Company E, Fourth Ohio Infantry, was wounded August 5, in a skirmish on the way from Arroya to Guayamo The bullet made a flesh wound over the inner margin of the left patella, and healed by primary intention in a few days

Case 8 —Samuel T Jones, Company C, Fourth Ohio Infantry, received a wound above the right patella, August 8 Wounds of entrance and exit one inch apart Primary healing under the first dressing

Case 9 —Edward O Thompson, Corporal Company K, Fourth Ohio Infantry, was wounded near Guayamo, August 8 The bullet entered the forearm two thirds of an inch above the wrist joint, on radial side, and after passing through the soft tissue in front of the bones, emerged from the inner aspect of the forearm just above the wrist joint Wound healed by primary intention under the first dressing

Case 10 —Harry Lee Haynes, Company C, Fourth Ohio Infantry, was lying down in a ditch at the time he was wounded, August 8 The bullet struck the arm two inches above the insertion of the deltoid muscle and emerged over the sterno clavicular articulation on the same side A third wound was found on a line with the course of the emerging bullet one inch below the mastoid process and in the direction of the sterno cleido mastoid muscle A fourth wound, an inch and a half in length, one quarter of an inch in depth and an inch in width, was found on the dorsum of the right fore arm an inch above the elbow joint All the wounds healed rapidly, caused but little suffering, and the patient was in a fair way to recovery when seen a few days after he was wounded

Case 11 —Clarence W Riffer, Company A, Fourth Ohio Infantry, was wounded August 8 The bullet entered the right thigh at a point five inches above the knee joint and about the middle of the external surface passed through the soft tissues making its exit three inches to the left of the point of entrance It re entered the left thigh at a point two and a half inches above the knee joint, and an inch and a half to the right of the posterior median line and emerged on the oposite side an inch and a half above the knee joint Both flesh wounds deep and long as they were healed primarily without suppuration

Case 12 —John O Cordner, Company C, Fourth Ohio Infantry was wounded August 5 The bullet made a flesh wound at the lower border of the patella, the wounds of entrance and exit being separated by a space an inch and a half in length Primary healing under first dressing

Case 13 —William Rossiter, Company G, Eleventh U S Infantry was wounded in the skirmish near Mayaguez August 10 He was shot through the inferior maxilla The bullet entered just below the margin of the bone on the right side about an inch in front of the angle and emerged over the angle of the bone on the opposite side, perforating the soft tissue of the neck in a transverse direction The bullet appears to have passed through the bone without fracturing it The only pain the patient complains of is produced when he undertakes to masticate food Wounds of entrance and exit healed in a few days by primary intention

Case 14 —Amos Wilkie Eleventh U S Infantry was on the march when wounded near Mayaguez, August 10 The bullet entered the right lumbar region just above the crest of the ilium, mid axillary line, and emerged about two inches to the left of the spine and four inches above the left sacro-iliac synchondrosis No indications of intra abdominal complications He suffered considerable from cramping pains, which he attributes to cold and fever which he contracted by exposure to rain A week after the injury was received, when the patient was an inmate of the Hospital Ship *Relief*, his condition warranted the hope of an early and complete recovery

Case 15 —Harry C Errick, Company C, Eleventh U S Infantry, was wounded August 10, in a charge on the enemy in ambush Wound of entrance in left leg over the outer aspect of the middle third, the bullet passed downward and inward and emerged about five inches above the inner malleolus Hemorrhage slight, no fracture Wound healing rapidly under first dressing

Case 16 —William H Wheeler, Company A, Eleventh U S Infantry, was wounded August 10, near Mayaguez, when in a standing position with his side in the direction of the enemy, his gun down, ready to reload The bullet struck the tenth intercostal space, left side, in the post axillary line and made its exit about four inches from the spine in the lumbar region close to the margin of the last rib No serious complications followed the injury, and at the present time, August 14, the patient is improving rapidly

Case 17 —George Curtis, Company D, Light Battery, Fifth Artillery, received a wound of the chest August 10, being in his saddle at the time The bullet passed through the chest from the second left intercostal space in front to the middle of the outer border of the scapula on the same side No hemoptysis or any other serious symptoms indicating the existence of the visceral wound of the lung The only thing he complains of is a sense of numbness in the left arm Primary union of both wounds

Case 18 —Joseph P Ryan, Corporal Company A, Eleventh U S Infantry, was wounded August 10 The bullet passed through the ankle joint Wound of entrance over the internal malleolus of left leg, wound of exit two inches below the outer malleolus No infection or signs of synovitis Wounds healing by primary intention

Case 19 —Samuel Copp, Company A, Eleventh U S Infantry, received a scalp wound, August 10, while he was lying on his abdomen on the summit of a hill Wounds of entrance and exit about two inches apart, healed under the first dressing He is suffering from a contusion of his abdomen he sustained by falling over an embankment during the same skirmish

Case 20 —Arthur Sparks, Company C, Eleventh U S Infantry, received a wound of the lower third of the left thigh, August 10 Wound of entrance on external anterior aspect of thigh about five inches above patella The bullet passed directly backward and came out on the opposite side on the same level without injuring the femur Healing by primary intention

Case 21 —George W Whitlock, Company C, Sixteenth Pennsylvania Infantry, was in a kneeling position when wounded near Guayamo, August 9 The bullet entered the thigh near the perineum, over the adductor magnus muscle, passed in an outward and backward course and emerged from the gluteal region near or over the sciatic foramen Hemorrhage slight Paralysis of the foot and lower part of the leg points to injury of the sciatic nerve Healing of wound without complications

Case 22 —James Drummond, Company K, Sixteenth Massachusetts Infantry, was wounded near Guayamo, August 9 The bullet entered the neck on the left side, behind the sternocleido mastoid muscle, two inches below the mastoid process Wound of exit on the opposite side in front of the trapezius muscle No immediate or remote complications Wound healed by primary intention Patient has suffered from slight attack of malarial fever

Case 23 —Paul J Mytzkie, Company D, Eleventh U S Infantry, was wounded in the skirmish near Mayaguez, August 10 The bullet made a flesh wound three inches above the external malleolus, which healed in a few days by primary intention under the first dressing

Case 24 —Daniel J Graves, Company M, Eleventh U S Infantry, received a gunshot wound of the thigh near Mayaguez August 10 The bullet passed through the thigh in an antero posterior direction, fracturing the femur at the junction of the middle with the lower third A week after the injury the patient was in excellent condition, the wounds remaining aseptic and healing rapidly

Case 25 —Theodore H Newbold, Company I, Sixteenth Pennsylvania Infantry, was shot while retreating during the skirmish near Guayamo, August 9 The bullet entered the right arm above the olecranon process and emerged from the extensor side of the forearm between the radius and the ulna The olecranon process was broken off The X ray reveals the presence of a fragment of the bullet, or its mantel, lodged in the wound Aseptic healing of the wound

Case 26 —Clyde C Frank, Company C, Sixteenth Pennsylvania Infantry, was injured near Guayamo, August 9 The bullet entered the inner surface of the middle of the right thigh, passed upward and backward, and in grazing the femur made a groove without fracturing the bone, emerging from the external and posterior aspect of the thigh Both wounds healed by primary intention In making a skiagraphic examination of the seat of injury a fragment of the bullet was discovered in the groove The piece of lead, as well as a few loose fragments of bone, were removed August 17 by enlarging the wounds of entrance and exit Operation by Dr Shultze

Case 27 —John L Johnson, Company D, Eleventh U S Infantry, received a gunshot injury near Mayaguez, August 10 The bullet passed in an antero posterior direction through the middle third of the left leg, going through the space between the tibia and fibula Hemorrhage slight Healing by primary intention

Case 28 —Samuel G Frye, Company D, Fifth Artillery, was injured by a deflected bullet, as he stood by his cannon, near Mayaguez, August 10 The bullet passed through the soft tissues in the right anterior axillary fold without doing any further damage The wound healed by primary intention

Case 29 —Henry Gerrick, Company E, Eleventh U S Infantry, received a superficial wound over the pronator muscles, near Mayaguez, August 10 The wound healed promptly by granulation

Case 30 —John Browning, Corporal, Battery D, Fifth Artillery, was wounded near Mayaguez, August 10 The bullet passed transversely through the soft tissues of the right forearm on a level with the wrist, in front of the radius and ulna The bullet evidently cut the ulnar nerve and vein, as shown by the paralysis of the parts supplied by the nerve below the seat of the wound and the free venous hemorrhage which immediately followed the injury Healing by primary intention

The marked contrast in the results of the treatment of the wounded in Cuba and Porto Rico, I attribute entirely to the better preparations made for the last invasion, and not to any difference in the surgical skill of the medical officers The surgeons engaged in the Cuban war were men exceptionally well prepared for their profession, and performed their onerous task with energy and enthusiasm Ambulances were scarce, the fighting line far away from the base hospital, conditions which made it difficult to render timely and efficient first aid Another circumstance which had its influence in interfering with the prompt and effective first aid to the wounded in Cuba was the large number of men who fell in battle in three days The war in Cuba precipitated in a pitched battle, in Porto Rico it consisted in a number of skirmishes in which only a small number needed surgical attention In Porto Rico the rear of the different armies was supplied with an adequate number of ambulances and Hospital Corps men The first aid was rendered almost immediately after the wounds were received, after which the patients were conveyed to the hospital at once A sufficient number of medical officers were on hand during each engagement to take immediate and proper care of the wounded In most instances the wounds healed by primary intention under the first dressing The value and importance of early surgical attention, and the first-aid dressing, became apparent in comparing the condition of the wounds, a week after the injuries were received, during the Cuban and Porto Rican campaigns

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Carcinoma of the Esophagus —Carcinoma of the esophagus can remain latent, that is, not cause any difficulty in swallowing nor in the passage of a sound, until death, if it extends lengthwise and does not invade the entire circumference Leichtenstein recently exhibited a number of preparations to the Cologne Medical Association in which a narrow, elastic groove had remained free from carcinomatous invasion to the last, allowing the ingestion of food, although the carcinoma had extended 9 cm perpendicularly —*Munich Med Woch*

COLPOPERINEORRHAPHY AND THE STRUCTURES INVOLVED

DEDICATED TO DR THOMAS ADDIS EMMET AND MR LAWSON TAIT IN RECOGNITION OF THEIR LABORS IN THE SURGERY OF THE PERINEUM

BY BYRON ROBINSON, B S, M D
CHICAGO ILL

Continued from page 860

The second step of the operation is to introduce the sutures of silkworm gut The two fingers are removed from the rectum and well cleaned The point of the handled needle is introduced at the upper angle of the wound (No 2 in Fig 21) without penetrating the skin or vaginal mucous membrane, carried along about one-half inch from the distal edge of the vaginal flap and made to emerge at the median raphe It is then threaded and drawn out The point of the needle is again introduced at the upper angle of the wound on the opposite side (No 4 in Fig 21), forced along the distal edge of the flap about one-half inch from the edge and made to emerge again on the median line It is threaded and drawn out This constitutes the first suture Generally three anterior sutures are introduced in the above manner To introduce the posterior sutures (three or four) the index finger should be placed in the rectum as a guide to avoid passing the needle too close to the rectal mucosa, endangering fistula The fistula may arise quickly or slowly If quickly an abscess will arise if slowly (two to four weeks) a fistula will arise and remain a longer or shorter time In one case a fistula persisted for three years The posterior sutures are introduced similar to the anterior However, they should be deeper and should thoroughly include the levator ani fascia superior and in [illegible] the enclosed levator ani muscle T[illegible] needle is passed into the edge of t[illegible] the skin, and pushed onward to the median line where the point emerges is threaded and drawn out It is again introduced on the opposite side and threaded in the middle In all cases requiring extensive dissection the needle should be passed through half of the wound only In the less extensive part of the wound the needle may pass through the whole wound at once Mr Tait employed three to five sutures We employ five to seven sutures

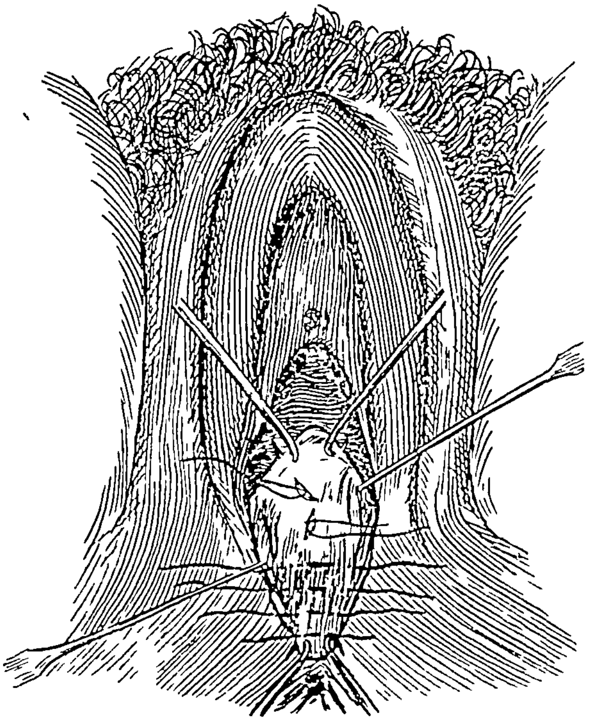

Fig 38 —(Author) A stage in progress of the flap-forming colpoperineorrhaphy Here the sutures appear as if the process had started at the anus but the safest and most practical method is to begin to introduce sutures and tie from the anterior end All sutures are threaded in the median line The needle may be thrust across the entire denuded field but one can make more perfect and deeper suturing by doing one half at a time

The third step is to tie the sutures of silkworm gut All the sutures are seized at the distal end by the left hand while the right hand pushes the tissues of the wound as far toward the loop of the sutures as possible This is a partial step, as it narrows and puckers the wound very much, so that when each individual suture is tied it assumes its final location The sutures should not be tied too tight, as they are apt to cut through considerable tissue After the sutures are tied, a linear gap of considerable width will exist in the median line, for the sutures do not penetrate the skin, and hence will not draw it in close coaptation Here some of the inexperienced will be tempted to place a few skin sutures to avoid the gaping of the wound Be sure not to do it, for they cause pain and may produce an abscess When the legs are placed together the edges of the wound will coapt The ends of the sutures should be left long and all tied into a single bundle The after treatment consists in applying no dressing or chemicals to the wound If there be considerable pain small hypodermic doses of morphin may be used for thirty six hours Most patients will require catheterizing, from trauma to the distal ends of the pubic nerves After forty-eight hours we begin to give t[illegible] quarts of a vaginal douche evening and morning The bowels should be moved on the third or fourth day by means of calomel [illegible] in small do[illegible] [illegible] [illegible] or thr[illegible] times) [illegible] MgSO4 Diet [illegible] nd [illegible] before [illegible]

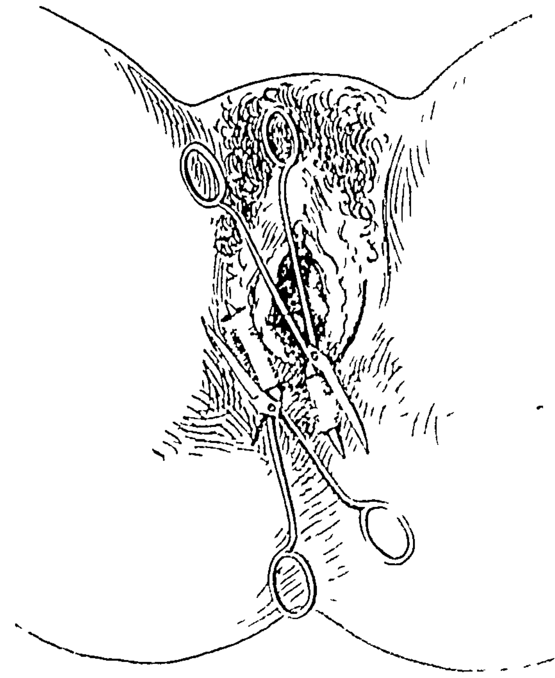

Fig 39 —(Robinson Holland) Method of formation of anterior and posterior flaps in the flap method of executing colpoperineorrhaphy

should be watched. If one becomes loose it should be removed. If none become loose or separate they may remain for three, four or even six weeks. Three weeks is soon enough to remove the sutures. The wound heals more firmly with the sutures in for four weeks or more. The sutures act like splints, holding the surfaces in fixed coaptation, avoiding motion, which interferes with perfect union. The sutures often give pain on removing, and it would perhaps be better in some neurotic cases to anesthetize the patient. However, I never practise it. Amateurs must be warned not to close the vulva unnaturally tight as it might disturb marital relations. The cuts in the article will show the steps in the technique.

THE EMMET OPERATION

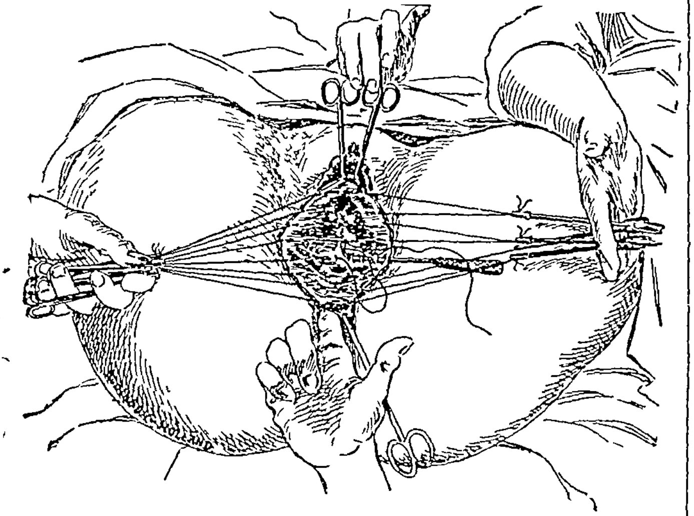

Fig. 40.—(Robinson Holland.) Method of introducing the sutures in he flap method of colpoperineorrhaphy. Note that the handled needle threaded in the median line. This cut was drawn from a photograph taken of a patient during the operation.

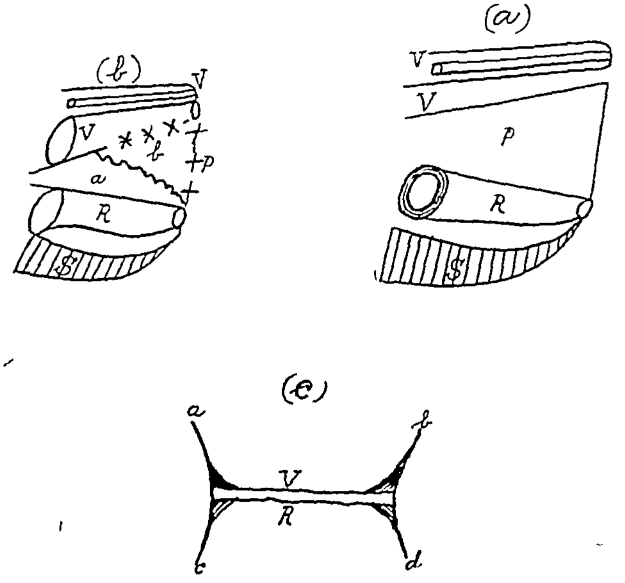

Fig. 41.—(Author.) Diagram of the plan of Tait's flap colpoperineorrhaphy. a. S. sacrum. R, rectum. P. intact perineal body. V, vagina with urethra above it. b. has had the torn perineal body, P, repaired by the six sutures marked by stars. c. shows the H shaped anterior cuts a. b. c, d. the posterior cuts. R. rectum. V. vagina.

This operation is in marked contrast to all previous ones for similar purposes, as union of the denuded labia was the first procedure. The *peculiarity* of Emmet's operation consists in denudation of the lower median posterior vaginal wall, bilateral denudation of triangular portions of the lateral sulci of the vagina, in the method of introducing the sutures, which are so arranged that on tying they lift the prolapsing parts toward the pubic arch, restoring anatomic structures, as the H-shape to the vagina and the normal curve of the vagina. The patient should be prepared for several days by cathartics and daily skin baths. The bowels should be evacuated by eight to twelve passages, so that no feces will be in the rectum while operating, nor for 24 to 36 hours after. Thorough salt rubbing of the skin not only stimulates the apparatus of the skin to the climax of secretion but reflexly stimulates the bowels and kidneys to active secretion. In short, place all secretory organs—skin, bowel and kidney—at their maximum activity for the operation. Place the anesthetized patient on the back, with an assistant holding each limb. With tenacula fixed to definite points of the vagina, as for example, one at the median crest of the rectocele, one tenaculum on each side of the vagina at the highest point of the triangle of denudation in the sulci and one on each side of the posterior vaginal wall at the junction with the skin and mucosa, one can mark the outline of the denudation with a scalpel. It is well, before denudation, to test whether the area is too large to insure coaptation of the wound without undue tension. The area defined by the tenacula is denuded by the operator cutting off long strips of vaginal mucosa with scissors curved on the flat. Others denude with the scalpel, rolling the denuded vaginal flap on a staff or on the fingers. With experience, large areas may be rapidly denuded. The area requiring denudation in the lateral sulci depends on the amount of slack in the posterior vaginal wall, for this operation has the special merit of narrowing the vaginal canal. With a typically relaxed vaginal outlet a large area of denudation will be required, and especially high in the right and left vaginal walls. The denudation should consist of the whole thickness of the vaginal wall. Continuous hot water irrigation over the denuded surface will check the hemorrhage. The operation is eminently a posterior colporrhaphy, and the success will depend on denudation in the lateral vaginal sulci, and not on the denudation of the so called perineum. In case the vaginal wall is very slack and thin it is well to extend the denudation deep into the bilateral subvaginal tissue in the vaginal sulci. Perfect denudation is a requisite, no islands of vaginal mucosa must be left. The second step of the operation, equally important with denudation, is the plan of introducing the sutures. The object of the special planning of the sutures is to lift the lax vaginal outlet upward toward the pubic arch, restoring the vaginal condition. The skill in planning the denudation in the right and left sulci of the vagina is no less than that employed in the introduction of the well-devised plan of sutures. The chief materials for sutures are silver wire, silkworm gut, and catgut. To suture the denuded surface expose one of the triangles in the lateral vaginal wall. Begin to suture at its apex, passing the suture transversely across the angle, after which immediately tie it. The second suture is passed one quarter of an inch from the first (four sutures to the inch). The needle is passed through the vaginal wall and subvaginal tissue toward the operator (in an anterior posterior direction), whence it emerges, and is re-entered at the same point and passed in an antero-posterior direction under the subvaginal tissue through the denuded triangle, emerging on the vaginal mucosa at the edge of the wound. This makes the suture, before tying, represent a triangle, with its apex (at the emerged points of the suture in the denuded triangle) toward the operator, and characterizes the plan of suturing i e, they are introduced in an antero-posterior direction, and by tying, they lift the vaginal outlet toward the pubic arch. The next suture is introduced by passing the needle through the vaginal wall (on the internal side of the triangle) deep into the subvaginal tissue of the denuded triangle (directly toward the operator), whence it emerges and is re entered at the same point and carried upward and outward (away from the operator) very deeply under the denuded area, emerging on the vaginal mucosa at the external side of the triangle. The sutures on the external side of the denuded triangle should be especially deep and should include extensive tissue. Generally three or four sutures are sufficient to close the triangle of each sulcus. The suture at the base of each triangle may be called a tension suture. It can be tied as soon as passed, which will enable more superficial sutures to be applied to the upper part of the triangle. The crown or pursing suture is now passed within the vagina by introducing the needle in the mucosa on the lateral vaginal wall close to the incision, a short distance below the center of the triangle. The needle should emerge in the subvaginal tissue in the sulcus below the point of introduction. The needle is re-entered and carried across the vaginal sulcus just below the vaginal incision, emerging at the opposite side. One or two auxiliary pursing sutures are added and the several sutures tied, superficial sutures are then added, as required, to close the gaps in the wound. The deep sutures should be of silkworm gut and the superficials of catgut

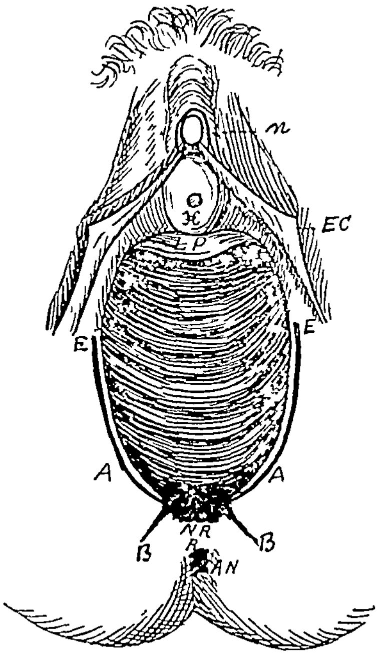

Fig 42.—The outlines of the anterior "cuts" (A E) and posterior "cuts" (A B) in the flap colpoperineorrhaphy n Clitoris h urethra L P, anterior vaginal wall A, N anus N R perineum E C labia The vaginal orifice is wide open The laceration is not complete i e it does not reach the rectum,

In this essay it is not the purpose to discuss immediate repair after labor, but the views are directed toward chronic damage of the vulva, vagina and pelvic floor. It will require careful examination of the vulva, vagina and uterus to decide in certain cases what will be the wisest plan to pursue. Some cases show extensive laceration with but few symptoms, while others show little damage, but complain of severe suffering. Such differences rest on visible and invisible supports. Extensive perineal lacerations demand repair whether they create symptoms or not, as such lesions will in all probability lead to illness. One may occasionally meet a patient who has had a perineal operation, and the perineum to all intents and purposes appears normal, yet an examination reveals the fact of a rectocele above the restored perineal body, and the patient confirms the results of the examination by still announcing herself as suffering. In operating, the dissection of the so called perineal body should extend as high on the recto-vaginal septum as there appears redundancy of the posterior vaginal wall (rectocele). Nothing less will cure the patient. The perineal body in its broadest sense, is a resistant ligamentous, fibromuscular structure which closes the abdominal cavity below. The body begins to be supported from the curved white line located on each side of the pelvis, as one may be impressed by looking into a pelvis from above. It is bowl-shaped, and as soon as this peculiar shape becomes lost, the supports have given away at some point. Observed from below the perineum is narrowed to the space between rectum and vagina. The flap operation is capable of repairing any defect in the pelvic floor. In complete laceration the anal and vulvar orifices are in direct communication, like a cloaca. The rectovaginal septum may show a boot-jack angle or an irregular arched outline. The irregularly-torn outline of the rectovaginal septum shows a double walled layer or curved sides. At the upper angle of the lacerated rectovaginal septum the rectal mucosa pouts, rolls and appears as a red or pink ground which aids in locating the line to split the flaps

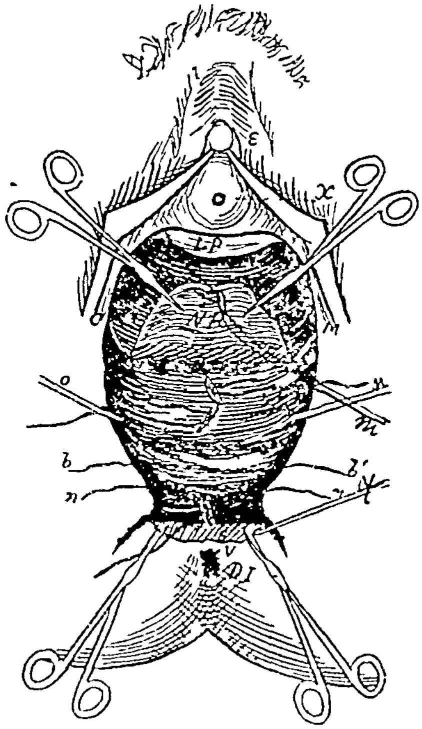

Fig 43.—Dissection of the flap and the anterior vaginal wall V R drawn up with forceps. The posterior flap S is drawn backward by forceps two sutures b n are already passed three more sutures one being introduced by passing the curved handled needle from the lateral edge of the wound to the middle of the denuded surface and threading it from the median line with silkworm gut D I anus V perineum L clitoris X, urethra L P, anterior vaginal wall

After the rectovaginal septum has been lacerated for a long time it presents irregular cicatricial bands, some of which are thin, others thick, assuring different stages of atrophy and contraction Bridges or bands of tissue may stretch from one point to another showing a penetrated condition Again, the lower edges of the lacerated rectovaginal septum may be drawn upward by the fibers of the levator ani still embracing the parts by the aid of its double fascial sheets Besides small, irregular depressions may be felt or observed where the stump of a bundle of the levator muscles has been torn away and retracted The deep sutures applied after splitting the septum will include these stump ends of the muscles by means of fascia so that they may be again forced to the median raphe and fixed there The flap operation does not need to observe whether the sphincter, anus or rectovaginal septum be lacerated, for it is alike applicable to each and all On examination we may find all kinds of associated conditions with extensive colpoperineal lacerations, as lacerated cervix, subinvolution of the vagina, cystocele, rectocele, and retroversion of the uterus Now if the uterine appendages are freely movable we can generally cure the patient by curettement, repair of the cervix and colpoperineorrhaphy, for much of the disease observed is due to disturbed circulation The vessels have been torn from their supporting bed by the deranged fascia The veins have become straightened out, dilated locally, and have lost their elegant spiral form, resulting in blood stasis, congestion Restore the supports and circulation will resume

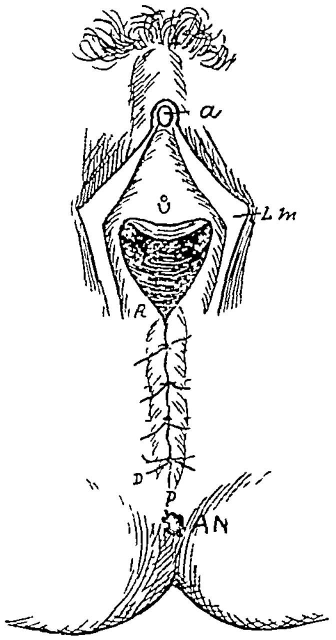

Fig 44 —Sutures tied in the operation for colpoperineorrhaphy with incomplete laceration A, N anus L, M, labia A, clitoris V, urethra, R, D median line of the perineal raphe, P, posterior point of perineal space

The diagnosis consists of observation and palpation with the aid of a large Sims speculum In the diagnosis a notably striking feature is the changed appearance of the vulvar outlet Normally the perineum is widest at its upper end With lacerated perineum or relaxed vulva the whole external appearance is changed The narrow puckered chink or slit-like aperture of the natural vulvar orifice is transformed into a patulous gaping Again the normal vagina presents a sigmoid curve with the posterior vaginal wall coapting and embracing the anterior, like a valve But in deficient vaginal apparatus these two concentric coapted curves have lost their relations, especially the posterior vaginal curve It should be remembered, in diagnosing this deficiency at the vulva, that the non-closure is not due especially to loss of the perineal body, but to defect in the levator ani muscle and its double fascial layers The levator ani muscle endows the rectum with its anterior curve and drags the lower end of the vagina upward and forward against the pubic arch This fact can be demonstrated by introducing the finger into the vagina and forcing backward and downward, when by removing the finger, the vagina quickly returns to its normal position The vaginal orifice has no distinct sphincter like the mouth or anus, but has an indirect sphincter, the horseshoe loop of the levator ani, aided by the pubic arch The arch acts like a fixed point and the vagina is indirectly closed by shortening, contracting of the anterior bundle of the levator ani muscle The vagina is closed by flattening its walls antero-posteriorly between the rectum and pubic arch It is H-shaped There is a slight puckering of the vagina at its external orifice by means of the weak bulbo cavernosus muscle, but practically this amounts to nothing in physiology and anatomy On account of the position of the rectum in relation to the levator muscle it produces a sigmoid curve to the rectum, with its convexity forward This is due to the fact that the strongest bundles of the levator muscle encircle the rectum about an inch above its orifice or lower end, whence by contraction it yields at the point of greatest force, i e, at the sigmoid bend On account of the position of the vagina, levator ani and pubic arch, the lower end of the vagina is dragged upward, producing its sigmoid curve forward, in the opposite direction to that of the rectum In other words, the plane of the pubic arch is anterior to the plane of the levator ani muscle, and when it contracts it must necessarily drag the lower end of the vagina upward and forward These considerations may be appreciated by introducing the finger into the vagina and the

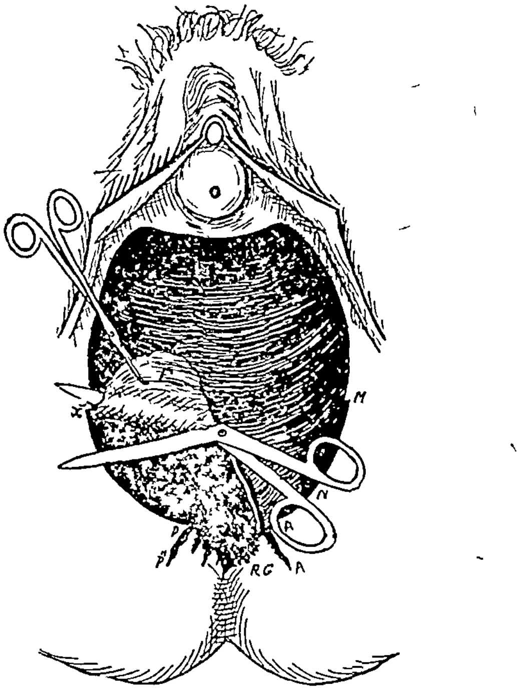

Fig 45 —Flap formation in a case of complete laceration of the recto vaginal septum into the rectum The scissor blade is splitting the vaginal from the rectal wall to form the flap, F, whose margin comes from the mucocutaneous line X, P P, P, is the back cut A to A, the opposite back cut, A, M, the anterior scissor clip

thumb into the rectum It is best studied first on a multipara and second on a nullipara, and third on one with a deficient vaginal sphincter apparatus The closure of the vagina well forward toward the pubic arch produces a kind of valve, which acts almost as a certainty against prolapse while intact This is one of the elements of success in both the Emmet and Tait perineal operations The vast difference in appearance between the virgin and the relaxed vaginal sphincter apparatus of the multipara is due to the yielding of supports by the process of labor in nearly all cases (visceral ptosis excepted) This does not appear so strange when we consider that the virginal passage of the vagina is about an inch in diameter, while the passing head, shoulders and breech demand ten to twelve inches in diameter It is not strange that tissues forced to stretch from one to twelve inches should forget to return The levator ani muscle is arranged in fasciculi or bundles, or it would become defective more frequently The sphincter and vaginal apparatus may be injured by external accidental trauma, but labor is the chief factor

(To be continued)

SOCIETY PROCEEDINGS

American Public Health Association

Twenty sixth Annual Meeting, held in Ottawa, Ontario, Sept 27-30, 1898

The American Public Health Association for the third time in its history met in the Dominion of Canada, this being the twenty sixth meeting since its organization in 1872 It was feared that the prior quarter centennial jubilee of the State Board of Health of Michigan and the coincident meeting of the Conference of State Boards of Health at Detroit in August, and the unfortunate announcement of the meeting of the Illinois Auxiliary Sanitary Association at Chicago on the same date as had been months before published as having been selected by the executive committee for this twenty sixth annual meeting, would affect the attendance, but this did not prove to be the case, the number of old members present, having a record of fifteen to twenty or more years of service, being particularly noticeable The Mexican and Canadian members were as earnest and conspicuous in their participation in the work of the Association as they have ever been since they became constituent parts of the organization, their papers being of that high order which habitually characterizes the contributors to the transactions It was a matter of comment that six of the former presidents were present, three others having been prevented from coming by unavoidable official duties This attendance of so many ex presidents is especially gratifying, since it shows the wisdom of the provision of the constitution of this Association making them ex officio members of the executive committee, thus securing that uniformity and persistence of policy which are so apt to be influenced in a body changing its locality and officers from year to year About seventy five new members were added to the rolls, an unusual proportion of these, as well as of the contributors of papers, being non medical men interested in sanitary matters The character of the papers was far above the ordinary, many of them, in the shape of exhaustive committee reports, precluding any satisfactory abstract or epitomizing, without injustice to the writers and reporters This, however, is less necessary since the executive committee, at its preliminary meeting on Monday afternoon had unanimously resolved to abandon the quarterly form of publication of the transactions and revert to the annual volume, which had been formerly issued, the publication committee having announced its intention to have the transactions of the current meeting [illegible] and distributed within two months after adjour[illegible]

TUESDAY, SEPTEMBER 27—MORNING SESSION

The routine sessions of the Association were held at the Parliament Buildings, where, at 11 30 A M , Tuesday, September 27, the Association was called to order by the President, Prof CHARLES A LINDSLEY, of Yale University, Secretary of the State Board of Health of Connecticut, who introduced the Chairman of the Local Committee of Arrangements, Dr JOHN SWEETLAND, Sheriff of Ottawa, by whom the customary announcement of proposed entertainments, etc , was made

The carefully prepared minutes of the preceding meeting at Philadelphia in 1897, were then presented by the Secretary, Dr CHARLES O PROBST, secretary of the State Board of Health of Ohio, but having been already published in the quarterly transactions, they were affirmed without reading

The Secretary then read the report of the executive committee, always a matter of the greatest interest in this body, which while conferring extraordinary powers upon the committee in the matter of the revision and amendment of resolutions, the digestion of propositions, the suggestion of courses of procedure, etc , jealously exercises its own prerogative of final approval or veto

1 With respect to the resolutions offered at the preceding meeting by Mr Henry Lomb of Rochester, N Y , contemplating the publication of journal appeals on the part of the Association to State, municipal and town corporations and the widespread distribution to the public, through the newspapers of this appeal, urging the necessity for the establishment of local sanitary organizations, the committee reported that it was of opinion that the measures for the enforcement of regulations designed to prevent the spread of disease could be best advanced by employing men educated in sanitary science as sanitary agents and inspectors, and that this could be best accomplished through the establishment of separate institutions for the education and training of such sanitary inspectors The resolutions, as amended by the committee, were adopted after discussion by Dr Benjamin Lee of Philadelphia, Pa , who said that all institutions should have departments of sanitation, since naturally, health officers and inspectors would be of a better and more efficient class if properly instructed in sanitary science, whereas the fact is, that in the United States men are put in positions for the enforcement of regulations for the protection of the health of the community who are not qualified to serve, and this because they have had no opportunities of prior education, and by Dr Henry Mitchell of Asbury Park, N J , who said that the United States ought to pay tribute to England in this matter, where for twenty years a system has been in operation for the training of men for the inspection service, and though it is not obligatory to have a certificate of the Sanitary Institute as a precedent of employment, still it is customary to employ such by preference In New Jersey the first step has been taken toward the training of sanitary inspectors Rutgers College of New Jersey has already begun to grant certificates of competency in matters relating to details of the sanitary inspector's duties The resolutions offered are designed to encourage this effort, especially for the education of executive sanitary officers The men engaged in this work are usually physicians, who have no knowledge of the practical details of their work, which they have to learn for themselves in the school of experience, so there ought to be post graduate courses in colleges to supply the particular information lacking

2 The second resolution reported by the executive committee with the recommendation that it be adopted, which was done, directed the publication committee to abandon the form of publication of the transactions in quarterly issues, and return to the former plan of a single annual volume, uniform in type paper, size, make up and binding with such volumes, the chairman of the publication committee having explained that it was entirely feasible to have their single volume printed and distributed as soon as the first number of a quarterly series could be issued

3 The resolutions offered by Dr Cressy L Wilbur of Lansing, Mich , Chairman of the Committe on Demography and Statistics in their Sanitary Relations, were recommended for adoption, which was unanimously done, and seventy five dollars appropriated for the necessary clerical work of the special committee in carrying them into effect The resolutions contemplate the procurement of the establishment of Vital Statistics officers in non registration States, the general adoption of the Bertillon system of identification as a basis of classification, the institution of [illegible] methods of registration in the next census report, [illegible] establishment of an international alliance and [illegible] ethod between all national and foreign depart[illegible] tistics

The resolu[illegible] revious meeting to reduce [illegible] l due [illegible] three was referred back without recommendation, and was on motion laid upon the table by the association

The Secretary then read the names of fifty applicants for membership, who were recommended for election, which was accordingly done

The reading of papers announced upon the program was then begun with

A SHORT HISTORY OF SEWAGE DISPOSAL AT THE ASYLUM FOR INSANE AT LONDON, ONT ,

by Dr R M Bucke, superintendent, the paper being read in the absence of the author, by Dr Peter H Bryce, secretary of the Provincial Board of Health of Ontario

Dr Bucke described the various systems of sewage disposal at this hospital since its opening for the reception of patients in 1870, down to the present day The sewage was first thrown into a small creek, a branch of the Thames, which in dry weather constituted a nuisance of which the neighbors complained Charcoal and gravel filtration was in vogue, with varying success, for fifteen years Complaints were made from time to time and intensified by the appearance of typhoid fever in London The system of intermittent downward filtration was finally instituted Alternate beds and trenches with drainage through tile lined conduits were spread over a wide area but experience showed the latter were useless, and when subsequently taken up it was found that nothing had passed through The sewage beds are on a higher level than that of the asylum One thousand inmates, of whom two hundred are sane people, produce daily 75,000 gallons, requiring two and a half hours to flow through to the beds, and in six hours it is completely absorbed in the soil, reappearing as pure spring water There is no pollution of the soil The sewage always disappears The experiment of establishing a vegetable garden has been successful, crops of fruit and vegetables of the value of $200 to the acre having been produced The system of sewage disposal so completely satisfactory at Dr Bucke's institution is simply nature's own plan of refuse riddance by returning it to the earth

Thomas Macfarlane, Esq , F R S C , chief analyst of the Inland Revenue Department of the Dominion of Canada, followed with a paper entitled

REMARKS ON THE DISPOSAL OF REFUSE IN SOME EUROPEAN CITIES

detailing results of official visits and inspection of the methods in vogue in England and Germany He agreed with Dr Vogel that no one method can be arbitrarily said to be the best everywhere In his opinion the direction of improvement in the large cities lies in the exclusion of surface water, and in towns of 30,000 inhabitants, he believed the moss litter system will be the best, as used at Caledonia Springs, Ont He exhibited a specimen of moss litter, which he described as an intermediate form of peat He strongly indorsed the system practiced at the asylum for the insane at London, Ont

Mr G G Horetsky, C E , read a paper entitled "The Most Recent Methods of Sewage Disposal and their Application to Certain Cities in Ontario," and was followed by Capt W F Van Buskirk, C E , of Stratford, Ontario, "On the Filtration of Sewage "

Discussion of the groups of papers on sewage disposal was opened by Dr Hurtig, secretary of the State Board of Health of Indiana, who, having inquired of Mr Macfarlane, where moss litter can be obtained, was told by the latter that it was found on the upper layer of broad savannas in Canada and that it was simply moss which had ceased to live It was not peat, but was intermediate between this and the green moss of the surface It differs from peat in that it is spongy and can be broken up while peat can not be Moss litter has an extraordinary power of absorbing moisture and ammonia, which makes it valuable for bedding in stables It gives off its absorbed water readily but retains the ammonia It is eight times more effective than dry earth , one hundred pounds of it will render inoffensive eight hundred pounds of excreta

Dr Boardman of Ottawa said the objection to most methods of sewage disposal was the fact that the products of the several expensive mechanical processes have no value

'The Interpretation of the Chlorin Number in Well Waters" by A McGill, Esq , M A , was read by title and was followed by a paper on

THE FARM WELL

by F T Shutt, Esq M.A , urging the importance of instructing the rural population as to the dangers to health from the polluted wells, since four fifths of the population reside outside of the cities, and cited the barnyard well as an especial and very common source of danger

Mr Macfarlane dissented from the opinion that legislation can not accomplish much but that we must trust to education, and said that education was a very slow process If only existing legislation is properly carried out, it will accomplish much Health officers have the right, if they can fearlessly exercise it, to expose existing nuisances and call the attention of the authorities to them, and this as well with respect to the care of cattle and the supply of water for man and beast

Dr Probst of Columbus, Ohio, said that there was no doubt that the majority of cases of typhoid fever in rural districts was due to impure well water, and recited an interesting case in his experience as member of the State Board of Health of Ohio of a recent outbreak of twenty one cases of the disease in a locality where fifty years ago a similar outbreak had occurred A well used at that time had been filled up and abandoned for over thirty years New owners came into possession, and the old well, which was in the side of a hill, was cleaned out and deepened—and its use followed by the renewed poisoning of those who drank its water

Dr Patterson of Winnipeg, Manitoba, said there was no doubt that typhoid fever is the prevailing disease of this region and equally no doubt that polluted well water was its source, and he insisted that the necessity that the farm well should be abandoned is as great as that privies in cities should be disused

Dr Hurtz agreed with the other speakers as to the objectionable sites of the ordinary farm well and insisted that it should be in front of the house instead of in the rear as customary

Dr Curtis of Ottawa, did not think cementing a well was sufficient to exclude polluting agents

Tuesday, September 27—Afternoon Session

Dr John L Leal, Health Officer of Paterson, N J , read a paper entitled

AN OUTBREAK OF TYPHOID FEVER DUE TO AN INFECTED PUBLIC WATER SUPPLY,

which he presented because it established the fact that a single case of typhoid may so infect a large body of water as to reproduce itself among those dependent upon this same body of water for their public supply, even though said supply was taken at some distance from the point of infection Most hitherto well authenticated outbreaks of typhoid fever have been where the infected water was small in bulk or the infection great and its action more or less continuous In this outbreak, the bulk of water infected was large, its infection sharply defined, and its origin in a solitary case of typhoid in the person of a resident, who returned from a summer resort ill with the disease The water closet receiving the discharges of this patient was connected with a series of cess pools by overflow pipes the last of the series discharges through a hidden pipe into the river, which was more or less continuously infected from September 18th to November 14th, when the hidden discharge pipe was discovered and further infection from that source prevented Subsequent to this, the cases of disease gradually diminished and within a fortnight entirely ceased Dr Schwartz of Rhode Island and Dr Connelly of New Jersey, commented upon Dr Leal's paper without questioning his conclusions

The Report of the Committee on "The Cause and Prevention of Infectious Diseases" was presented by its Chairman, Dr Peter H Bryce of Toronto, secretary of the Provincial Board of Health of Ontario , ordered to be printed, and the committee continued The excellence of Dr Bryce's report was universally admitted Its literary merit, conciseness of expression and exhaustive character entitle it to be considered among the admirable committee reports, which have emanated from this association

WHAT CONSTITUTES AN EPIDEMIC?

was the title of a paper read by Dr Benjamin Lee, secretary of the State Board of Health of Pennsylvania and Health Officer of the city of Philadelphia, and which ably discussed the question as to whether numbers of cases, rapidity of spread or malignity of disease should determine the epidemicity of an outbreak Machiavelli uttered the famous aphorism "Words are the counters of wise men, the coin of fools " Another equally distinguished diplomat (liar) has informed the world that the object of language is to conceal ideas In the word *epidemic*—a "coin" or a "counter"—practically, as employed at the present time, it is simply used to describe the presence of a communicable disease in some other fellow's town " Inasmuch as the reluctance of the resident physicians and especially the authorities of a town, to acknowledge the existence of an epidemic is founded upon a purely commercial basis, having no other motive than the fear of the diminution of trade, while the readiness of those of the neighboring town to proclaim it is based upon a wholesome and instinctive aversion to contracting the supposed infection, is it not remarkable that the view of the latter rather than that of the former should be adopted as that of the sanitarian? In other words should not rapidity of spread rather than the number of cases be recognized as the true test? Dr Lee's contention is that the actual number of cases of a contagious disease in proportion to the population as the criterion for the declaration of an epidemic "has nothing to do with the case any more than the flowers that bloom in the spring," but that the rapidity of spread shyuld be solely considered The Board of Health which, having knowledge of such condition, purposely conceals it, or still worse, denies it, is guilty of a crime of hideous proportions, none the less so because it is acting in obedience to the behests of the business portion of the community or from a mistaken sense of local patriotism

The discussion following the report of Dr Bryce and the paper of Dr Lee became general Respecting the former, Dr Gehrman of Chicago suggested the question as to the proper time of isolation of diphtheritic cases, since the bacillus often persists after the case is apparently well

Dr Holton of Brattleboro, Vt , spoke of the undoubted presence of the bacillus of diphtheria in individuals who have not been sick with the disease He asked what should be done with people going around with them who are apparently well? Is it fair to quarantine those who have been ill and yet who are apparently well, but still have bacilli discoverable in their throats?

Dr Bracken of Minneapolis, Minn , said if any healthy person was found to have the bacillus in his throat he ought to be quarantined The time limit in Minnesota was four weeks

Dr Chapin of Rhode Island thought it very rare that the bacillus was found in healthy people, but he believed it to be equally dangerous In families where diphtheria has prevailed about 20 per cent are found to have bacilli in their throats In an orphan asylum within his knowledge, twenty five cases of the disease occurred, and about 20 per cent of all the children were found to have bacilli, and of these two or three became sick with the disease, and one case was carried to another institution by a child who was not sick

Dr Patterson of Winnipeg, Man , knew of three cases, in one of which the bacillus was found thirty days, in a second thirty five, and in the third forty days after they were severally supposed to be well

Dr Jones, health commissioner of Baltimore, detailed the precautionary measures enforced in that city , Dr Probst of Columbus, Ohio, Dr Burroughs of Asheville, N C , and Dr Wright, of New Haven, Conn , spoke of the practice in their respective cities

Dr Schwartz, secretary of the State Board of Health of Rhode Island, asked, referring to Dr Lee's paper, whether tuberculosis ought not to be considered epidemic throughout the civilized world

Dr Lee said that the distinction ought to be made between endemic and epidemic, under the former of which tuberculosis might be properly classed

Dr Wingate, health commissioner of Milwaukee, Wis , thought a special committee might be created to define "What is an epidemic?" and offered a resolution to this effect, which was referred to the executive committee The discussion was closed by Dr Hurty, the secretary of the State Board of Health of Indiana

The paper presented by Mrs Ellen H Richards, of the Institute of Technology, Boston, Mass , on "The Urgent Need of Sanitary Education in the Public Schools," was read by Dr Henry Mitchell, secretary of the State Board of Health of New Jersey The writer claimed that the Cuban war has shown that sanitation has not been taught to the people, and that the only way in which this can be reached is through the public schools The lamentable ignorance of the volunteer soldiers in matters of food and clothing would not have existed had they been properly educated Professor Robinson of Bowdoin College, Brunswick Me , and Medical Director Gihon, U S N , dissented from the opinion that public school education could accomplish much in this direction

Dr Hurty of Indiana read the paper on "Theater Sanitation," prepared by Mr William Paul Gerhard, C E , of New York City

Evening Session

The customary public meeting for the formal reception of the Association by the local authorities and the annual address of the President was held in the city hall and was opened with prayer by the Rev William Moore D D

Addresses of welcome were then delivered by Hon Sydney Fisher, M P , Minister of Agriculture whose department embraces the sanitary interests of the Dominion of Canada by Sir James Grant, M D K C M G , F R S C by Samuel Bingham, Esq , Mayor of Ottawa, and by W G Black, the several speakers being introduced by Dr John Sweetland, chairman of the local committee of arrangements

Dr Gregorio Mendizabal of the City of Mexico responded eloquently in French to the special greeting extended to the Mexican members

Dr Benjamin Lee of Philadelphia then took the chair, introducing, after some witty and felicitous remarks, the president of the association, Prof Charles A Lindsley, M D , of New Haven, Conn , who then delivered the President's Annual Address

Wednesday, September 28—Morning Session

The Association was promptly called to order by the president at 9 o'clock, to permit acceptance of the excursion to Hull, Aylmer and Victoria Park and thence on the Ottawa River to Chats Falls and a dinner at Victoria Hotel, Aylmer, P Q , tendered by the municipality and citizens of Ottawa

Dr Probst, the secretary, reported from the executive committee the resolutions offered by Dr Wilbur of Lansing, Mich , for the appointment of a commission of nine members, three from each of the nationalities represented in the association, to co operate in the establishment of bureaus of vital statistics for the collection of such statistics under the Bertillon system of classification, and these were adopted as recommended

The names of twelve new members were recommended for election and were accordingly elected

The report of the committee "On the Etiology of Yellow Fever" was then presented by the chairman, Dr Henry B Horlbeck, health officer of Charleston, S C , and a supplementary report on the same subject by Dr Eduardo Liceaga, president of the Superior Board of Health of the Republic of Mexico, a member of the committee

The committee was continued, and also the committee of seven appointed at the previous meeting to wait upon the President of the United States with a view of obtaining the appointment of a bacteriologic commission to go to Havana to study the causes and methods of prevention of yellow fever This special committee was reconstructed to consist of Dr Henry B Horlbeck of Charleston, S C , George M Sternberg, Surgeon General U S Army , Dr Alvah H Doty of New York City, Dr Samuel H Durgin of Boston Mass , Dr R D Wilkinson of New Orleans, La , Mr Josiah Hartzell, and the State Health Officer of Texas, to succeed Dr R M Swearingen, deceased

Dr Liceaga presented the seventh of a series of reports on yellow fever, to modify a former statement in the report of last year, that "there are only two foci of endemic yellow fever in the whole of the Gulf Coast of Mexico and these foci are found in the Canton of Vera Cruz and in the district situated in the northern part of the Peninsula of Yucatan " This statement was made before the Superior Board of Health had absolute knowledge of the two cases observed in Campeche and before the appearance of the epidemic in Tampico, and consequently before the investigation was commenced which proved that these cases were *not* the result of the importation of the disease Hence, Dr Liceaga said, we have to withdraw our absolute statement that there are only two foci of endemia on the Mexican Coast of the Gulf of Mexico Dr Liceaga's declaration that the sanitary authorities of Mexico have firmly resolved *never* to hide any case of transmissible disease that may come to their knowledge and that they have determined that their official documents shall express the truth only so far as absolute facts are known, was greatly applauded—as an evidence of the proper spirit in which the work of the committee of which he is a member should be conducted

Dr Walter Suiter of Herkimer, N Y , Dr Wilkinson of New Orleans, La , and Dr S W Battle, U S N , participated in the discussion of the reports of Drs Horlbeck and Liceaga, eliciting the declaration that there was no analogy recognized between any of the forms of malarial fever that the 'calentura" of Mexico is paludic, and that neither it nor the severest forms of bilious remittent fever give any immunity against an attack of yellow fever , that the microbe of Laveran is positively distinctive , that so far the microscopic germ of yellow fever can not be said to have been discovered but that the bacteriologic investigation which it is the object of Dr Horlbeck's special committee of seven to induce the President of the United States to inaugurate, may confidently be expected to reveal its identity

The report of the committee "On the Cause and Prevention of Infant Mortality" was then presented by the chairman Dr Ernest Wende, commissioner of health of the City of Buffalo, N Y , and pursuant to the recommendations of the committee, Dr Suiter of Herkimer, N Y , offered the following resolution, which under the rules, was referred to the executive committee

Resolved, That it is the opinion of the Public Health Association that the State, city and town health authorities and local sanitary societies generally should exercise every possible effort to procure the enactment of laws in their respective States, cities, towns and villages to prohibit the sale of the so called long rubber tube nursing bottle as being a perniciously active agent in the cause of preventable disease in infancy of the most serious character and fatality

Dr Irving A Watson of Concord, N H , president of the State Board of Cattle Commissioners and secretary of the State Board of Health of New Hampshire, read an admirably written paper entitled

SOME OBSERVATIONS FROM PRACTICAL EXPERIENCE WITH BOVINE TUBERCULOSIS IN NEW HAMPSHIRE

The tenor of the paper was to the effect that the danger of infection from bovine tuberculosis has been greatly over-rated and that whatever danger exists arises almost entirely, if not wholly, from those animals in which the disease is so far advanced that it may be detected by a competent veterinary surgeon upon physical examination, barring, possibly, the localized appearance of the disease in the udder, in which event the tuberculin test would determine the diagnosis The following concluding propositions were presented

1 That it is impossible to eradicate bovine tuberculosis, but that it may, without inflicting too great a burden upon the State, be reduced to a degree that will subserve the interests of the stock raisers and likewise protect the public health

2 That a very small percentage of the animals infected with tuberculosis in any way endanger the public health, and that an indiscriminate slaughtering of the cattle reacting to the tuberculin test is wholly unnecessary, inasmuch as many of them either recover or the disease is permanently arrested

3 That a proper sanitary condition of stables and stable inclosures would do more toward preventing the spread of bovine tuberculosis than any other measure that could be adopted

4 That the danger of infection from bovine tuberculosis may be reduced to very small proportions, if not wholly eradicated, by sanitary measures, inspections and physical examinations by the State, in co operation with local authorities

5 That such inspections once inaugurated could be maintained without an expense that would be burdensome to the State

Dr A de Schweinitz, chief of the Biochemic Division of the Bureau of Animal Industry, Washington, D C , read a paper on "A Convenient Method of Staining Tubercle Bacilli "

Sir James Grant, M D , of Ottawa, commended very strongly the propositions advanced by Dr Watson

Dr Gibson of Iowa dissented as to the ability of veterinarians, however skilful and experienced, to recognize tuberculous cattle by mere physical examination however thorough He would quarantine a tuberculous cow reacting to the tuberculin test as he would a glandered horse The slaughtering room is the only place for them

Dr Bracken of Minnesota, deprecated the effect of Dr Watson's paper as calculated to occasion loss of confidence in the tuberculin test

Dr Durgin said that we must have the people with us if we hope to succeed in sanitary work In Massachusetts, radical and extreme measures had been found to defeat their object

Dr Woodward, health officer of the city of Washington, asked who were the people—the dairymen who sell, or the citizens who consume the milk? In Washington the people themselves demand the application of the tuberculin test

After further remarks by Dr Bryce of Toronto, and Dr de Schweinitz of Washington, Dr Watson closed the discussion, defending the propositions he had presented, and the association then adjourned until Thursday morning, to accept the courtesies tendered by the city of Ottawa for the afternoon and evening

(*To be continued*)

Cincinnati Academy of Medicine

Regular Meeting, September 26

Dr Merrill Ricketts exhibited a patient who had been operated on just one week previously for right inguinal hernia The radical operation was the one performed The operator reported the case as he wished to call attention to the short time the operation required, eight and one half minutes, and also to emphasize his opinions as to the great value of properly prepared kangaroo tendon for buried sutures The sutures he always kept, until used, in alcohol, to which a little resin had been added The resin he claimed prevented the hands slipping when the suture is pulled home

Dr Lyle exhibited the specimens of a case in which a tubercular infection had involved the pericardium and peritoneum, while the lungs were but little diseased The trouble probably originated in the bronchial glands The pericardium showed a caseous exude about half an inch thick over the left ventricle and about a qurter of an inch over the right side of the heart In the abdomen was found, in addition to the tubercular peritonitis, great thickening and involvement of the omentum The stomach had been invaded by a large carcinomatous growth at the pyloric orifice, this had ulcerated through into the general peritoneal cavity, which proved to be the immediate cause of death The man was 44 years of age Dr E W Mitchell, who had had the case before he had been sent to the consumptive hospital, had had considerable trouble *in deciding upon the diagnosis The examination of the blood* repeatedly showed the absence of the plasmodium, and the reaction of Widal had also proved negative The lungs were apparently normal The stomach contents showed the absence of free hydrochloric acid, and also of lactic acid Chills and fever occurred not infrequently The use of tuberculin was determined upon for diagnostic purposes, but the first injection proved entirely negative Not satisfied with this, however, a new solution was obtained, and the injection this time was entirely successful, a decided chill, some fever, and marked constitutional reaction following

Dr Magnus Tate reported a case in which a double pyosalpinx operation had been performed, the patient at first reacting strongly, within forty eight hours of the operation, she unfortunately fell out of bed, soon collapse set in, and in spite of every aid, she went from bad to worse and soon died Opening the wound, just before death, he found a small opening in the gut The case, during operation, has been a most difficult one on account of strong adhesions present He had been most careful to examine the bowel before closing the external incision for this very thing, but had been unable to find a weak point He thought that the accident after the operation had caused some weak point to give way under an increased strain Discussion was by Drs Reed, Bonnifield and Zinke, who agreed with the speaker as to the cause of the perforation

Dr Ed Ricketts reported a case of appendicitis in which a concretion had ulcerated through the appendix, producing a fatal peritonitis He also exhibited a gall stone he had removed by operation, which weighed 388 grains Discussion was by Drs Twitchell, Reed, Zinke and Bonnifield

Dr Meyer Heidingsfeld read the report of a case of spontaneous rupture of a prostatic abscess into the rectum and urethra, followed by recovery L A , 21 years of age, was *infected with gonorrhea on July 3, prostatic abscess formed* and opened into the rectum on July 30 Reinfection from the rectum followed, a second abscess formed and ruptured spontaneously into the urethra, August 30 The case then became complicated with epididymitis, hydrocele and abscess of the left testicle, which latter was incised, and patient was discharged one week later without urinary fistula

Dr S E Allen reported a case of mastoiditis in which septic infection with the formation of abscesses in various parts of the body occurred without involvement of the lateral sinus He thought that the emissary veins carried the infection

The German Congress of Ophthalmology

Held at Heidelburg in August

Landolt of Paris presided at the first session The first address was by Norman Hansen of Copenhagen on

SYSTEMATIC SUTURE OF THE CONJUNCTIVA ALONE WITHOUT SUTURE OF THE SCLEROTIC, FOR SEVERE WOUNDS OF THE EYEBALL

He recommends suturing the conjunctiva, even in deep perforating wounds This protects from infection and produces an even pressure which holds the lips of the wound in contact on an even plane In all cases of large perforating wounds of the sclerotic, with or without the participation of the cornea, he first enlarges the conjunctival wound to the corneo sclerotic limbus and then carries the scissors half around the corneal margin, detaching the conjunctiva, with the subconjunctival tissue, after which the two flaps are drawn together over the wound in the sclerotic and over the corresponding segment of the corneal surface, with two or three fine stitches He then applies a cotton pad, held in place with a wide gauze bandage, but without *compression* He changes the pad twice a day on account of the copious serous, non-infective secretion His clinical experience proves that this suture is sufficient to prevent infection and that it is an effective defense against prolapsus of the vitreum and choroidea Experiments have shown that the largest wound gap in the sclerotic is completely filled with granulations in six days The sutures will certainly hold that length of time if they are taken deep enough in the subconjunctival tissues, and in the episclerotic, with extensive lesions He added that every case he now cures so simply and easily without either primary or secondary infection, is haunted for him by the ghosts of the eyes he has lost in former years with expectant treatment, by primary or secondary infection, staphyloma or cicatricial shriveling If the lens is injured, or it is found difficult or impossible to replace it without loss of vitreous humor, he performs iridectomy, to allow the lens more space The suture in the conjunctiva does not tear out, with cocain it is painless, and it is applicable to the most extensive lesions He related a typic case thus treated a workman hit in the eye by a sharp chisel falling from a height, as he was looking up It cut the eyeball from the upper edge of the cornea to the inferior conjunctival fold, slitting also the iris and lower eyelid, the lens escaping through the long gaping wound He sutured the conjunctiva alone, as above described, over the wound to the center of the cornea The wound healed in ten days and now, a year later, the functions of the eye are perfect, counting fingers at six meters, with a restricted field

Axenfeld explained the fact that the newly born can not shed tears until about the seventh week, due to the unfinished condition of the central nerve tracts, not only the cortical—necessary in psychic weeping—but also the reflex tracks The lachrymal glands are comparatively completely developed

Sugrist called attention to the

DANGER OF BLINDNESS FROM LIGATURE OF THE CAROTIS COMMUNIS OR INTERNA,

describing a couple of observations in which the corresponding eye became atrophied and blind after the carotis communis and interna had been ligated to arrest hemorrhage, during the extirpation of a carcinoma of the tongue in one case In the other, the carotis externa and interna had been ligated in a young man on account of exophthalmus pulsans traumaticus Embolism of the central artery followed in both, and the necropsy of the first case showed a thrombus in the arteria ophthalmica, and an obstructing embolus in the arteria centralis retinæ

Uhthoff reported some cases of "Visual Hallucinations from Affections of the Eyes" a few limited to one side

Silex of Berlin stated that the "Central Innervation of the Muscles of the Eye" is derived from hitzig center, part of the facilis center It controls the voluntary movements of the eye, at least of the abducens and obliquus superior Stimulation of this center in a case of unilateral traumatic nystagmus produced movements in the eye of the opposite side

Abelsdorff stated that Malays, Mongolians and negroes examined were remarkably free from astigmatism of the cornea, compared to civilized races, when found it was very slight

Groenouw judges from a study of forty cases of ophthalmia neonatorum that the clinical picture is not an absolute guide to the bacterial agent of the affection Gonococci were found in the conjunctiva in some cases, after the secretion had ceased The pneumococcus was found in a number of cases It indicated a benign course of the affection

Rahlmann recommended the mucous membrane of the lips for "Marginal Plastic Operations," as owing to its resemblance to the conjunctiva, it is especially adapted to heal in its new situation without delay or alteration of structure

Sattler described his simplified operative treatment of myopia He extracts the lens in cases of extreme myopia without preceding discission, first incising the cornea, 6 to 8 mm , lifting the anterior capsule with a hook and taking out with the Daviel spoon as much of the lens substance as possible The final discission is not hastened Thirty cases thus treated were distinguished by the rapid recovery and slight post-operative astigmatism

On account of the International Congress of Ophthalmology to be held next year, at Utrecht, the German Congress will not convene again until 1900

French Congress of Alienists and Neurologists

Held at Angers in August

The chief subject under discussion at this meeting was

POST OPERATIVE MENTAL DISTURBANCES

As already noted in our editorial (page 798), **Rayneau** stated in his address that all the various pathologic mental conditions have been encountered in the psychoses consecutive to operations, and that there is no special type A hereditary or acquired predisposition is generally admitted (except in certain operations on the skull and thyroidectomy) the traumatism is only the last drop that makes the vessels overflow Some patients even request an operation, simulating a disease if necessary, because they are already mentally affected In a number of cases related, the psychosis following the operation was found to have been preceded by more or less transient mental disturbances in the past when thoroughly investigated Statistics, he stated, show an average of one psychosis to fifty surgical interventions Out of 68 cases on record, 5 have become chronic, 13 lasted a month or two, 33 nearly a year, in six duration is unknown

Regis considers the confusional the usual type Delirium immediately following the anesthesia is due to chloroform intoxication supplementing the nervous shock Delirium appearing from the second to the tenth day is due to septicemia, to accidental infection or to auto intoxication caused by the interference with the nutritive processes by the nervous shock

Picque observed that, in his experience, mental disturbances very rarely follow operations on the uterus and adnexæ, while they are frequent after vaginal or perineal operations on predisposed nervous subjects In these cases the lesions are accompanied by subjective symptoms, and the patient is already under the dominion of a fixed idea when she comes to the surgeon

Terrien described three typic cases of post operative hysteric paralysis and mental disturbances, cured by suggestion supplemented by the thermocautery and electricity, using a different style of battery on account of the "suggestion," if the first proved ineffectual He also urged the necessity of special training in mental pathology in the medical colleges, to enable the general practitioner, particularly in the country, to handle the cases of insanity he may meet Out of nineteen delirious cases in the last ten years, he has only sent five to asylums He treats the rest at home, where they are better off, while it relieves the crowded asylums

Regis attributes the unsettled condition of the question of post operative psychoses to the fact that they are not seen by alienists until fully established

Montprofit reported five in the course of 3000 operations

Grandjux observed that they are not encountered among soldiers, as selection eliminates the predisposed, and that the rôle of the traumatism is insignificant, mentioning as an instance in proof that not a single psychosis occurred among the 931 soldiers wounded at Froeschwiller and exposed to innumerable privations

Ladame called attention to the dangers of morbid suggestion, relating the case of a lad of 10, trephined for some traumatism, but recovering perfectly and in excellent health for years, when he met the surgeon again The latter expressing his surprise and gratification at his patient's good health, happened to describe the mental disturbances that might have resulted from the intervention A psychosis promptly followed

Doleris has recently reported three cases of mental disturbances consecutive to a benign gynecologic operation One patient imagined that the entire external genital region had been removed, unconvinced, except for the moment, by inspection and palpation Another returned again and again for the surgeon to assure her that her anus had not been closed , another was convinced that the perineum was unbroken by any orifices The cases were otherwise in perfect health One recovered after several months of hydrotherapy, exercise and hypodermic injections of glycerophosphate He observes that if we could divine the secret morbidity that leads women to ascribe all their troubles and ailments to the hypogastrium, many interesting problems in gynecology might be solved

The second address, on

TRANSIENT DELIRIUM FROM A MEDICOLEGAL POINT OF VIEW,

classified this delirium according to its etiology as 1, melancholia mania, 2, emotive, 3, brief, irresistible impulses, 4, puerperal and menstrual 5, a neurosis—epilepsy, hysteria, neurasthenia *or ophthalmic migraine*, 6, *intoxication*—alcohol, etc , 7, affection of the nerve centers and nerves, 8 diseases other than nervous, 9, disturbances in sleep—state intermediate between sleeping and waking, somnambulism, prolonged dreams, 10, momentary aberration The French school do not admit the idiopathic, transient insanity accepted by the Germans—Krafft-Ebing, Kroepling Swarzen and Wendel—who believe that a form of transient mental alienation may occur in perfectly normal individuals *free from* any hereditary predisposition and any pathologic anterior conditions such as epilepsy, alcoholic intoxication, etc

Motet has never encountered such a case in all his long experience It has often been difficult to discover the determining cause of an apparently insane act, but he has always discovered it at last, in some cases it was epilepsy, in others intermittent fevers, etc There are crimes of passion which resemble the acts of insanity but must not be confounded with them

Charpentier observed that besides the transient delirium depending upon known causes, there are others whose cause is unknown, but that it does not follow that they have no cause, adding that Motet's experience reminded him of the judge who remarked that during his entire professional career he had never seen a single example of a judicial error He claims that a crime committed during an attack of transient delirium, whatever may be the known or unknown cause of the delirium, does not come under the jurisdiction of the laws which assume criminal responsibility

Lalanne called attention to the transient delirium that may proceed from a transient congested condition of the brain, citing an instructive example

In concluding a discussion of a case of myelitis and flaccid paraplegia, **Pierret** explained the fact that the inferior members have convulsive movements when the neurons controlling their movements are separated from the cortical centers, by the assumption that there is a constant tendency in the entire nervous system to the realization of an equilibrium of latent dynamism, the medullary segment, isolated, is forced rapidly to a condition of exaggerated potentiality whence the discharges, spasmodic in character But healthy cells are indispensable to the phenomenon If the neurons are diseased, if the nerve tubes are altered or if the muscles are no longer normal, the convulsion does not occur The connection between general paralysis and mental degeneracy was noted by Joffroy, although Magnan considers the latter secondary, and that general paralysis depends more upon the "way one lives" than any other cerebral affection It is rare among imbeciles, but ten cases are on record, confirmed by the necropsy

An interesting study of "Arteritis in the Pathology of the Nervous System" was presented by **Coulon**, who restricts its rôle almost exclusively to the secondary lesions it occasions aneurysmal dilatation and the phenomena, generally local, which it determines; diminished size from the thickening of the arterial walls, which may lead to ischemia, obliteration by embolism or thrombosis which causes softening in spots, and finally the rupture of arteries with all their concomitant symptoms

The next Congress will meet at Marseilles in April, 1899, the subjects selected for discussion are "Secondary Systematic Delirium," "Polyneuritic Psychoses," and "The Unrecognized and Condemned Insane"

PRAGTICAL NOTES

Lipoma of the Foot—Kleinknecht reports one case in the thirty two observations on record, in which the lipoma was mistaken for a sarcoma and the foot unnecessarily amputated, [illegible]t usually the diagnosis is unmistakable The treatment is [illegible] complete ablation of the tumor, which can be accomplished without a plantar scar, through a dorsal incision, if the metatarsal bones are spread wide enough apart —*Beiträge z Klin Chir*, xx, 2, *Semaine Méd*

Test Paper for Iodin in Saliva and Urine—A sheet of filtering paper is dipped in a 5 per cent solution of cooked starch When dry it is marked off into 5 cm squares, and in each square two or three drops of a 5 per cent solution of ammonium sulphate are dropped and dried, sheltered from intense light The ammonium sulphate loses its power in two or three weeks, it is best applied fresh To test the intestinal absorption let the subject swallow a glutoid capsule containing a little iodoform Then mark the hour on the first square, and number the rest The subject then deposits some saliva on the corresponding square every hour, and an exact record of the intestinal absorption is obtained, as the paper turns blue in contact with any traces of iodin —*Semaine Méd*, September 7

Iodin for Acute Gastro Enteritis—Iodin has been recently recommended by Grosch (Journal, page 302), and P A Bizine of Russia also proclaims its remarkable efficacy in acute gastro enteritis He administers to children with diarrhea or cholera infantum, a teaspoonful every hour, of the following Emulsion of castor oil, 180 grams, essence of peppermint, 3 drops, essence of cloves, 5 drops, tincture of iodin, 10 drops, chloroform, 2 drops The bottle must be kept on ice to prevent decomposition If a slight diarrhea persists after the contents have been taken, he gives two powders a day, in water, as follows Iodized starch, 75 centigrams For six powders The proportions are increased for an adult Emulsion of castor oil, 180 grams, essence of peppermint, 5 drops, essence of cloves, 7 drops, tincture of iodin, 15 drops, chloroform, 5 drops A tablespoonful every hour When the principal morbid symptoms have subsided—usually in twenty four hours—he gives 60 centigrams of iodized starch every four hours In cases of cholera nostras he administers the following at one dose Castor oil, 20 grams, essence of peppermint, 3 drops, tincture of iodin, 10 drops, chloroform, 2 drops, supplementing the medicine with an injection of tepid water if the purgative effect is not prompt, hydrochloric lemonade for beverage, mustard plasters on the joints to relieve cramps, and hot water bottles to keep the patient warm, completing the treatment with the iodized starch as above —*Semaine Méd*, September 7

Aseptic Catheterism—Dr C Mansell Moullin has given an interesting and practical paper to the London *Lancet* of September 10, on the subject of urinary fever at the beginning of catheter life and of aseptic catheterism He says of aseptic catheterism that it is one of the problems of modern surgery He has been called upon to deal with it especially in cases of which there has been a large amount of residual urine The following are the essential features of Dr Moullin's very successful measures All instruments must be disinfected first by boiling The hands, the prepuce and the skin of the penis must be cleansed as thoroughly with soap and water as if a surgical operation were going to be performed, and then sponged over with a solution of corrosive sublimate, 1-5000 The glands of the meatus require especial care An irrigating catheter is then introduced into the *fossa navicularis*, and this part of the canal is thoroughly washed out from behind with boric acid Then the catheter is pushed on into the deep part and the process repeated Finally, Melchior's double catheter is introduced and the urine drawn off In this way it is possible to obtain a very high degree of asepticity When catheters have to be passed at frequent intervals, the disinfection of the hands, penis and front part of the urethra will manifestly be never carried out each time At the outside it will only be done night and morning, and often one has to be content if it is done thoroughly once a day But catheters can be kept clean Those made for me, as smooth and polished on the inner surface as they are on the outer, will stand boiling day after day (if they are kept straight while in the boiling water and drained afterward) and continued immersion in boric acid without injury Each patient is provided with two glass catheter cases One of these is filled with boric acid lotion for instruments that have been used, the other provided with a rubber cork as well as a metal cap, is dry and aseptic These cases are so arranged that they can be hung up in the patient's wardrobe, out of sight and out of dust No catheter is used more than once a day As soon as a catheter is withdrawn from the urethra it is dropped into the case filled with boric acid solution and left there Once a day all the catheters are taken out, boiled for five minutes, and placed in the dry case until required The plan is not perfect and I have no doubt is capable of improvement, but it works fairly well with an intelligent private patient who can be made to understand the necessity of observing strict precautions Unfortunately they are not all intelligent, and in the case of a hospital out patient such a complicated plan is out of the question The best that can be done is to start such people as well as possible and hope that by degrees they will acquire a certain amount of immunity against the toxins they are are bound to absorb There is a little evidence to show that a certain degree of immunity may be acquired, but I am very skeptic as to its ever being sufficient in the face of a virulent growth, or when the bacterium coli is assisted by other germs such as the streptococcus and the proteus

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE

Per Annum in Advance	$5 00
Foreign Postage	2 00
Single Copies	10 Cents

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No 61 Market Street (Occidental Bldgs) Chicago Illinois

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SATURDAY, OCTOBER 15, 1898

STEREOCHEMISTRY AND VITALISM

The sensational presidential address of Sir WILLIAM CROOKES at the late meeting of the British Association for the Advancement of Science, beginning with a prophecy of the failure of the world's wheat supply and ending with what seemed at least an endorsement of or expression of faith in the theories of telepathy, was, it appears, not the only utterance of scientific facts or possibilities that is especially noteworthy and exciting The address of Professor JAPP of Aberdeen, in the Chemical Section, appears also to have at least stirred up comments, and forms the subject of a rather bilious editorial in the *London Saturday Review* His subject, which has its interest to medical as well as to scientific readers and to cultured laymen, was the proof of a distinct vital agency or energy as afforded by the facts of stereochemistry, or by the optical effects of the molecular composition of substances Many years ago PASTEUR, whose high standing as a chemist has been so eclipsed by his biologic researches that it has been forgotten, expressed the opinion that the molecular asymmetry of natural organic products was probably the characteristic that best established a natural line of demarcation between the chemistry of living and that of non-living matter This molecular asymmetry is shown by the power these products have of turning the ray of polarized light to the left or right—a property which, according to Professor JAPP, is not shared by any inorganic substance in its natural states So far as known, PASTEUR, it seems never changed his views on this subject, and, according to the Scotch professor, modern chemistry has developed nothing to invalidate them He, therefore, offers as a contribution to the literature of the vitalistic controversy a very elaborate discussion of the whole subject of the asymmetric arrangement of the atoms in the molecules of organic products, reviewing what investigations have been made, and coming to the conclusion that we have in this twisted or one-sided atomic disposition a distinguishing characteristic of natural compounds of vital origin He finds as a result of all the data obtainable, that when the asymmetrically arranged atoms of which the inorganic world is composed are acted upon by symmetric forces in such a way as to produce asymmetric compounds, the constant result is either to form pairs of enantiomorphous molecules (those in which the asymmetry of one counteracts that of the other), or similar pairs of atomic groups within the molecule, and in either case the result is the same—mutual compensation and optic inactivity The same, he holds, would be the case with symmetric matter interacting under the influence of asymmetric forces—supposing such to exist—provided that the latter are left to produce their effect unguided, and under conditions of pure chance His own conclusion from it all, stated in his own words, is as follows "The production of single asymmetric compounds or their isolation from the mixture of their enantiomorphs is, as PASTEUR firmly held, the prerogative of life Only the living organism, with its asymmetric tissues, or the asymmetric products of the living organism, or the living intelligence with its conception of asymmetry, can produce this result Only asymmetry can beget asymmetry"

It will be seen that the last of these three conditions of the formation of asymmetric compounds leaves a considerable margin of possibilities in chemic manipulation, and affords room for the possible synthetic production of any amount of organic substances It would seem even to hint the possibility of a new origination of vitality life producing life, not by direct propagation, but through the action of intelligence and intelligently directed manipulation of non-living matter Admitting this would be, in some respects at least, a long step toward the position of the anti-vitalists There is also some assumption, perhaps, in the statement that under no conditions of pure chance could an asymmetric compound be produced As an argument for vitalism in its common acceptation, therefore, Professor JAPP's address is not absolutely complete or convincing, while it is an interesting contribution and shows up very prominently one of the distinctions that exist in nature between living and non-living matter and their respective products

The anti-vitalists, how[illegible]r, are as d[illegible] as, if not more so than, th[illegible] nts, and [illegible] r of the editorial write[illegible] aturday [illegible] evidence of this [illegible] reaso accept his assumptions any more than those of anybody else, we need not admit it as beyond possible doubt that the disproof of spontaneous generation will be overthrown, or that all vital processes will be demonstrated to be mere chemic or physical ones It is more scientific to wait the absolute proof of such views before accepting them as correct, and in the meantime we have many puzzling problems to solve before we can legitimately adopt them If admitting that vital phenomena are yet in their essence beyond our comprehension and as yet unaccounted for by the known laws of matter, is accepting the theory of vitalism, then a vitalistic point of view is really the only scientific one to adopt

RENAL HEMATURIA

Hematuria may occur in disease of any portion of the genito-urinary tract It is usually considered that the farther removed the lesion from the meatus, the more intimately mixed the blood and urine, When renal affections are causative, then we meet with the best type of an intimately mixed fluid of blood and urine While local conditions of the kidneys, as stone, new growth, parasites are responsible for many cases of what might be called renal hematuria, general pathologic systemic conditions must frequently be held to account Such conditions as the latter occur in the various acute infections, in the anemias, in the hemorrhagic diathesis Putting aside for the present the consideration of the above causes, there still remains a large number occurring for the most part in chronic rheumatic affections, in gout and in atheroma This hematuria is explained by Musser as due to trauma We know that in rheumatic disorders, in gout and in the various gastric and nervous complications attending these diseases urinary salts are excreted in excess The excess of these salts explains the trauma on the grounds of mechanical irritation, and more or less blood appears in the urine To be sure the hematuria thus resulting is as a rule microscopic, but is none the less a hematuria, and it might be said here the constant drain produced may partly account in not a few instances for the anemic condition observed in these diseases and especially in neurasthenic states Musser, who has studied this question most closely, found in almost three thousand examinations of urine obtained from nearly two thousand patients, hematuria in 364 distinct individuals "In 250 of the patients with hemorrhage the presence or absence of urinary salts was noted Of these, in 90 uric acid alone was found, in 49 uric acid and other salts, in 17 oxalates alone, in 19 phosphates alone, in 4 oxalates and phosphates were found In 71 it was stated there were no salts" He also states that the patients who were reported as without salts in their urine were afflicted with other disorders that readily explained the hematuria In conclusion one other point established by Musser must be noted that in all the patients in whom renal stone was diagnosed (and in whom time showed the diagnosis to be correct), blood, though often microscopic, was an almost constant ingredient of the urine in all instances

OUR PROSPECTS AS A PROFESSION

It is so easy to prophesy evil, and easier still to believe it From the days of Jonah and Jeremiah to those of Mother Shipton and the Millerites, men have been fatuously ready to believe the future big with portents of disaster We appear to be morally certain of only two things one that the world is, the other that it is soon coming to an end We can not refuse to admit that the past has been triumphant, and the present fairly satisfactory, but the future! The "signs of the times," whether religious, political or professional, are invariably baleful, and we can not help believing that a little of this pessimism is tingeing the vision of the prophets within our own ranks, in respect to the future outlook of our profession

Never was the outlook so gloomy, we are told, all the stars in their courses are fighting against us First of all the profession is overcrowded already to the starvation point, and a flood of hungry graduates is poured into its ranks every spring Then the dispensary abuse has reached such monstrous proportions that two-thirds of our population get their medical attention for nothing Next to this is the eye of jealousy, and only charlatans can succeed Finally—and most fatal of all—we are nobly but mistakenly destroying our own livelihood, sawing off the bough that supports us, by preventing disease so efficiently that ere long there will be none of it left for us to cure

That there is some truth in every one of these allegations it would be foolish to deny, but that all of them together are competent to bring upon us half of the injurious results so freely prophesied is utterly unproven, and, we think, can be shown to be improbable First of all, the general statement can be made in regard to all of them, that things are no worse in any of these regards now, than they were fifty or even a hundred years back with the exception of the hospital and dispensary abuse This is particularly true of the first count in the indictment Two generations ago there was exactly the same cry about "overcrowding" that we hear today, and it has turned out just as it did in the celebrated case of Malthus A century ago that renowned economist declared that our population was the root of all evil, and that the slightest increase upon the existing density would mean the ruin of the English race Since then the population of the island has quadrupled, and instead of its condition having been made worse by the change, it is far better than ever before—less crime, less pauperism, longer lives, lower death-rate, more meat, sugar, fruit, etc , eaten per capita than ever before in history, more money in the small savings-banks, higher wages, lower taxes, and our professional MALTHUSES have been equally stultified So far from being ground down by competition into poverty and discredit, never was the doctor better paid, better equipped, better dressed and housed, and best of all, more respected and more trusted than he is today If any one doubts the latter let him take one glance at the literature of the past century and a half and see what figure the doctor cuts in it Previous to GEORGE ELLIOT's "Lydgate" there is scarcely a medical man mentioned in English fiction or drama without a sneer or a slur, "the doctor" is invariably a pompous fool, a shrewd old ignoramus, or a whining cheat Look at the fawning cads and impostors of SMOLLET, FIELDING, and MOLIERE, of DICKENS and THACKERAY, and contrast them with BALZAC's medical hero, and with that highest compliment and noblest tribute ever paid our profession—"Maclure of Drumtochty, and whichever way we turn we find the same sort of contrast between now and then in fact, it can be abundantly proven that the marked increase of the already "overcrowded' state of the profession in the past seventy years has been attended by no deterioration. but on the contrary, by a great improvement in our condition and status

And the same contrast can be seen between different countries at the present day In 'density of doctors, the United States heads the list with one to every 600 of her population· then comes England with about one to 1500 then Germany with one to 4000, and finally Russia with one to 7000, and Turkey mate fees caused thereby That this is an evil and a serious wrong alike to the profession and the laity is unquestionable, but that it has so far done any serious injury to the profession as a whole we utterly deny In the first place, from the medical point of view, its injustice lies, not in robbing the profession of its financial dues, but in unequally and unfairly distributing those dues in the interests of the more "pushing" and dramatic individuals, at the expense of the more modest and less distinguished There can be no question that it "pays" well on the whole and in the long run, or there would not be such an eager rush for positions of any sort upon its staff, and as the practice of medicine is supporting nearly twice as many physicians as ever before, it can hardly be fairly said that any considerable proportion of the profession is *absolutely* injured thereby, although it may be *relatively* In spite of many striking and disgraceful exceptions, the vast majority of those who attend our dispensaries are so much "clear gain,' so to speak, to the profession, as they would otherwise never have employed *any doctor*, except the county or parish physician, either from ignorance, prejudice or unwillingness to pay the fee, and the formation of the "doctor habit" in these large classes is worth, financially, ten times as much to the profession as any possible loss of fees from the small percentage of really probable "pay patients" among them This consideration is one which, we think, is hardly given its full value in discussing "hospital which sweeps through the minds of all the less intelligent classes We are gravely suspected of "experimenting" upon our patients, of "giving medicine to keep one sick," of rejoicing in the spread of epidemics, and even of such insanities as hastening the end of hospital patients to get their bodies for dissection, or of performing gruesome operations for the purpose of securing certain portions of the viscera to use in making medicine The celebrated "Whitechapel murders" were firmly believed, in the locality itself, to be the work of a doctor who was determined to have fresh, human kidneys for some such purpose, and this precious theory was actually exploited in some of the daily papers, whose sapient reporters declared that the shocking mutilations of the victims was evidently the work of a "surgical hand"

In short, both these large classes of the community have to be educated up to using the doctor, as they have to take a weekly bath, and their reluctance is due to something the same queer mixture of economy and distrust in both cases

With all its abuses, the free dispensary has done and is doing us yeoman service with these large masses of the laity, teaching them by actual experience that the doctor is a necessity instead of a luxury, a good investment instead of an extravagance, a true and valiant friend instead of an enemy and a heartles *exploiteur*

Last of all, what of the danger that by our vigorous and successful championship of sanitary reforms—a championship whose sincerity and devotedness not even our enemies have ventured to impeach—we are actually closing our own field of labor, destroying our own hopes of a livelihood? It need hardly be said that we are not raising this question with any reference to the advisability of continuing such a course of conduct Any such suggestion would be even more futile, thank God, than contemptible, for we are unalterably pledged to mortal and relentless warfare against disease and pain in every form, and by every weapon suggested alike by our ancestry and our interest as physicians and as men And even should such a course ultimately result in the complete extinction of our craft from lack of occupation, we would be the first to hail the event as a blessing to humanity and seek other less saddening and certainly not more arduous occupations

The question simply is Do the sacrifice and laborious services of the physician in behalf of the public health result in impairing his own chances of earning an honorable and adequate livelihood? If we put the query in the past tense it answers itself at once As everyone at all familiar with vital statistics knows, the number of physicians supported by any country and the adequacy of their support is in exactly inverse ratio to the mortality and morbidity rate, from Turkey with its one physician to 9000 and its death-rate of 70 per 1000 per annum, Russia with 1 in 7000 and a death-rate at 50 per annum, up to England with her 1 to 2000 and death rate of 16, and the United States with 1 to 600 and a death-rate in some cities as low as 9 In fact, paradoxical as the statement may appear, the countries which have the most sickness support fewest doctors, and vice versa, those which have most doctors have least sickness

Nowhere have sanitary measures diminished the demand for physicians one iota, but rather, the higher the standard of health has risen, the keener the request has become for that most efficient and only agent for its attainment—the family physician Instead of being in danger of extinction he is barely at the threshold of his full usefulness to the human race A very large proportion of even our most highly civilized communities avail themselves but little of the services of the doctor save in mortal or serious illness The realm of what might be termed "personal preventive medicine" is only just opening up to us Get rid of the old and irrational method of summoning us only in disease and too often long after hopeless mischief is done, and let us be engaged by annual compact to keep our families in health, instead of simply curing them more or less imperfectly when ill, and we could profitably devote our entire time to the care of less than half the clientèle which at present we are attempting to care for, and the benefit to the race would be enormous

Contrary to popular impression and legend, the race is improving physically every century, and men's standards of health are rising just as their standards of living and of morals are The more efficient our sanitary precautions and the wider the spread of hygienic knowledge among the people, the higher and more exacting does this standard become The intelligent Englishman and American of today would be no more satisfied with the standards of health, comfort and bodily efficiency of the citizen of the Middle Ages than he would with the latter's rancid undergarments, stinking floors, unglazed windows and filthy streets What his ancestor called a trifling running of the nose or huskiness of the voice, and expected to put up with his life long, he dubs "catarrh," and insists on having it cured A deformed arm or leg, instead of being endured as a dispensation of Providence, must be cured or else amputated and a rubber one substituted, his sight must be perfect and his head free from aches, or lenses are at once demanded, and so on all along the line It is not that disease has increased—far from it—but our toleration of it and of discomfort or inefficiency in any form has greatly diminished

So that while, three generations ago, there was simply one doctor in the town or even county—to be called, with the priest, only in cases of mortal urgency—there are now ten family advisers and a dozen specialists of every sort needed to meet the higher demands of the community for "Health, more

Health" And when we further remember the numerous official avenues of usefulness which sanitary progress has opened up to physicians—such as that of health officer, the board of health, the sanitary inspector of factories, of mines, of schools, the railroad surgeon, the insurance examiner, the food inspector and a score of others—we can readily see not only why the diminution of endemic disease has not limited the field of activity of our profession in any way, but on the contrary, immensely widened it, but also that there is no prospect of its doing so for generations to come Half of our present membership could be profitably employed in studying and supervising our schools and systems of education alone, and in less than a generation more the school physician will be considered as necessary as the teacher or superintendent

In fine, our ideals already rise faster than our attainments, in hygiene as elsewhere, and there will ever be a broad field for honest, conscientious workers who are willing to assist in their realizations Our prospects as a profession were never brighter and more hopeful than they are today

MEDICAL SIGNERS OF THE DECLARATION OF INDEPENDENCE

A recent article in a magazine has claimed that the vast majority of the cultured people of what are now the United States were opposed to the movement for independence from Great Britain It is difficult to see on what data this claim is based, since a fair estimate of the position of people of culture can be formed from their number in the Congress which drew up the Declaration of Independence A decided majority of the signers not only had what would now be a high school education, including Greek and Latin, but several were prominent in the science and literature of the time Many graduates of universities were elected to and took part in the formation of the Declaration of Independence Five were physicians, not only prominent in public affairs but in science and general literature as well Drs Josiah Bartlett, Matthew Thornton, Oliver Wolcott, Benjamin Rush, and Lyman Hall, were five physicians who signed the Declaration Dr Josiah Bartlett was a descendant of an English family, whose founder had entered England with William the Conqueror and had been ennobled by him The founder of the American family settled in Massachusetts in the 17th century Dr Josiah Bartlett was born in Amesbury, in November, 1729 Albeit, not a college-bred man, he became an excellent Greek and Latin scholar The literature of these languages remained a favorite study until the close of his career At sixteen he began the study of medicine, as an apprentice of Dr Ordway, a distant relative of the family This apprentice system prevailed in New England until the beginning of the 19th century After the completion of his medical studies he settled at Kingston, N H, as a practitioner He gained a reputation even beyond the bounds of the State for his success in the treatment of malignant diphtheria, then called "black canker" The treatment he adopted in this disease was practically that of the present day, other than the orrhotherapy He employed local anesthetics, chiefly essential oils, and mecurials The patient at the same time was supported by nourishment in fluid form and stimulants As the Bartletts had imbibed the republican principles of the English Puritans, who founded the British commonwealth, it was but natural that one of their scions should take an early stand for representative government The standing of Dr Bartlett in the community is shown in his appointment as a civil magistrate, and as a colonel of a regiment of provincial militia, by the royalist governor, Benning Wentworth In 1765, Dr Bartlett was elected a member of the provincial legislature He was foremost in the opposition to the corrupt, tyrannic system pursued by Governor Wentworth In violation of the principles on which New Hampshire had been settled, and in violation of the religious rights of the settlers (the vast majority of whom were Puritans), Governor Wentworth attempted to establish a State church In the endowment of this he reserved lands belonging to the public Foremost in opposition to such procedures was Dr Bartlett, who, in 1774, led the movement to choose delegates for the Continental Congress, which met in September 1774 Dr Bartlett was chosen a delegate thereto, but was unable to attend, on account of his house having been destroyed by fire Because of his movement against British tyranny, Dr Bartlett was dismissed from his military command and his commission as a magistrate annulled In August, 1775, he was chosen a member of the Continental Congress, and was foremost in its deliberations In 1776, being reelected, he became a member of the committee which devised the articles of confederation, under which the United States were ruled until the adoption of the Federal constitution, in 1788 After the Declaration of Independence had been discussed and was laid before the Congress for adoption, Dr Bartlett was the first to vote for, and the second to sign it John Hancock, being president of the Congress, first signed the document In 1777 he was reelected to congress, but was unable to attend, because of ill health In 1779 he was elected chief justice of the court of common pleas and was also made mustermaster of the troops then being mustered in for the continental service In 1785 he became a judge of the state court In 1788 he was promoted to the office of chief justice of the supreme court He was an influential advocate of the federal constitution in the convention of New Hampshire In 1788, when that went into operation, he was elected a senator in the first Congress under it but declined In 1790 he was chosen president of New enthusiastic, most appreciative, and most laudatory letter to JENNER after some years' trial of vaccination in Virginia The logical nature of JEFFERSON'S mind, his deep regard for the rights of individuals, and his scientific acumen render this letter a most emphatic demonstration of the falsity of the antivaccination cant As Dr CALDWELL has shown (History of the American Declaration of Independence), every one of the fifty-six delegates who signed the Declaration of Independence were men of well-balanced and well-cultivated minds Of them, two died of accidents in the prime of manhood The other fifty-four averaged sixty-six and three quarter years—an illustrious example of the influence of well-cultivated and regulated brains, WINSLOW remarks, in conferring longevity upon those who possess them Several of these delegates lived beyond their eightieth and some of them to their ninetieth year The medical members averaged seventy-one years each The history of the Declaration of Independence, therefore, demonstrates that since the stream can not rise above its source, the cultured people of what are now the United States took an active part in establishing, permanently, the principles of constitutional liberty which the colonists had inherited from their English speaking ancestors This is further shown by the great proportion of physicians and scientists among the signers When commercialism and demagoguery are dominant, the medical man is regarded as unfit for the "business" end of politics When culture, common sense and public spirit without the plutocratic taint are uppermost, the physician always comes to the surface as an ideal representative

CLAUDIUS HENRY MASTIN, M D

CLAUDIUS HENRY MASTIN, M D, University of Pennsylvania, 1849, died at Mobile, Ala, October 3, aged 72 years He served as a surgeon in the Confederate Army and was a member of several scientific bodies

In the death of Dr MASTIN the medical profession has lost one of its most learned and active members The American Surgical Association will miss him, and the Alumni Association of the University of Pennsylvania is deprived of one of the ablest and most efficient workers for the University A loyal friend, a gentleman and a scholar, his life is now only a sweet memory, but his surviving friends will cherish it while they remain on earth as an undying possession

CORRESPONDENCE

Case of Fetal Monstrosity—Thoracopagus

WEATHERLY, VA, Oct 6, 1898

To the Editor —July 15, 1898, I was hastily summoned to the bedside of Mrs ——, a primapara, who presented the following history She had been greatly molested by pains in the abdomen, principally during the night, for about a fortnight During the night of July 15 she was startled by a sudden gush of liquids, which was none other than the amniotic fluid, and apprising her mother of what had happened, a messenger was sent for me Arriving at her bedside I discovered her with a severe intermittent pain, characteristic of labor Washing and disinfecting my hands, I proceded to make a digital examination to ascertain the cause, since the woman declared to be only six months pregnant I found the os soft and dilatable, and a fetal foot presenting

Firmly grasping the presenting part I applied gentle traction, and presently I had what I presumed to be the mate to the foot presenting, but noticed the singularity of both feet facing each other On high examination I was positively convinced that they were not members of the same body My next procedure was to replace one foot and bring down the mate, but my efforts at this were futile I however, brought down a third foot, and mating them, I attempted replacing the odd member back into the uterine cavity by gently pulling and simultaneously pushing back the one foot No success in these manipulations, inasmuch as my pulling perceptibly affected the other foot I now began to search cautiously for the missing fourth This was not an easy task, because by this time the expulsive pains and efforts of the woman were very severe After much patience I ultimately located it and succeeded in hooking my index finger around the groin, forcing it down I must admit that I now had on hand an experiment which embarrassed me not a little, but gave no vent of it, so worked zealously on as my judgment suggested Grasping the handful of feet with one hand while I busied the other in supporting the perineum and "shelling out" I had the two bodies down to the axilla I now had the satisfaction to take *stock account*, as it were, and found that I had not only twins to deal with, but that they were closely joined together from the umbilicus on up as far as I could find I shook off all remnants of perplexity at this point, knowing full well, however, that the problem was not solved Gentle and patient manipulations delivered the arms and shoulders As every accoucheur will readily perceive I now had arrived at the climax or trying point—to deliver the heads This was accomplished with apparent ease I gently rotated the bodies so as to present them obliquely, to have advantage of the largest diameter of the maternal pelvis By external pressure and traction, and encouraging the woman to bear down forcibly, I had the satisfaction to feel the lower head yield, and by swinging the bodies forward at right angles to the woman it was soon in the sacral cavity, the other head following in the same manner Rotating the bodies now so that one head should rest against the perineum, the other against the pubic arch, and still holding at right angles, the complete expulsion was ultimately effected, and this, without the use of an anesthetic, no damage to the soft parts The placenta was delivered with ease, and the subsequent history of the case uneventful

The placenta was normal in size—one common umbilical cord and near the placental insertion was a large clot of blood which had the appearance of being several days old, and undoubtedly created the pains and also precipitated the labor, as well as a providential interference to rectify a mistake of nature Had the woman arrived at full term of gestation a difficult and serious labor would have been inevitable Now a brief description of the product of this labor The double monstrosity was 12¾ inches long and weighed six pounds Both fetuses were well developed and symmetrical, of the male sex, and united together along the sterni clavicular articulation to the umbilicus The possession of it was denied, much to my utter disappointment since I very much desired it The union was very close, and not only tegumentary but evidently the two sterni were cemented together without any communication of the thoracic centers They were dead *in utero* probably three or four days and showed evidences of maceration

Playfair's work on Obstetrics quotes nineteen cases of similar nature but the presentations differed

I have thus modestly recited my procedure and success in this rare case, and I report it not with a view of expecting to call forth praise and admiration for terminating a case of such extraordinary character, but with a hope that by reporting this to the professional fraternity some brother may escape the embarrassment which confronted me, as well as to be instructive to the readers of this valuable JOURNAL as it has been to me

W P LONG, M D

Complete Congenital Separation of all the Bones of the Cranium

FLORENCE, COLO , Oct 8, 1898

To the Editor —Recently I attended a lady in confinement, who gave birth to female child at term—presenting such a remarkable and unusual anomaly of osseous development—that I herewith hand you the details, in brief, for publication The fetus presented by the occiput and nothing unusual was observed till the head engaged in the vulvar outlet, when great mobility was apparent to the touch After delivery, which was normal—assisted by traction with the hand only—all the cranial bones were found to be completely disunited at their sutural lines *Not one* was united with its fellow, and in the case of the frontal bone, the two halves were ununited as in very early fetal life No union anywhere had ever existed, although the individual bones were perfectly formed, and when held in proper position in the hands, made a cranium of normal shape and size In fact, after delivery of the head from the outlet, there was not much displacement with the head lying at rest, the bones seeming to be held in relatively proper position by the connective tissue underlying the scalp The scalp itself was normal, not perforated or broken at any point, and manipulation of it gave the impression of a bag or sack containing separate bones loosely attached to its inner surface, which was in fact the case The fetus was dead, and from appearances had been so for several days The mother felt "motion" last about three days previous to the onset of labor, which was slow and prolonged by reason of the conditions set forth

There was nothing remarkable about any other portion of the osseous system, the child was well developed, and would, perhaps, have weighed eight or nine pounds The parents are healthy, and there is no history of any constitutional taint or dyscrasia on either side The mother has aborted twice—once at four and a half months, once at seven and a half—the only times, save this last, of pregnancy

An interesting circumstance connected with the case is the fact that *each parent was a seven months' child* What rôle, if any, this circumstance may have played in the case, I will not attempt to say I was unable to procure the infant for dissection and preservation of specimen, much to my regret In a careful search of all the literature at my disposal bearing upon anomalies and monstrosities, I have been unable to find a similar case, and in an experience of a quarter of a century I have not before seen anything approaching it

Since its rarity makes it extremely interesting, I publish it, hoping that if any one else has seen a duplicate, he or she, will do the same Yours,

B ROSEBERRY, M D

P S —The condition was not due to hydrocephalus

Disease of Intemperance

NEWARK, N J , Oct 4

To the Editor —In your timely article on ' The International Temperance Congress," in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Oct 1, 1898), you well say, "[illegible]es tions concerning the action of alco [illegible] riety and prevention, are vital in alm [illegible] bor

[illegible] land, and it would seem to be a most practical subject for medical men to discuss and study," for physicians preeminently possess the power to arrest and prevent the spread of the disease of intemperance They alone can prohibit with authority the use of alcohol in the nursery, hospital and general practice, and so prevent the acquirement of the appetite for alcoholic drinks—slowly induced in some, in some more rapidly—which, Tantalus like, torments and devours the sufferer with a perpetual thirst

According to the best authority, experience has demonstrated it to be a fact that as regards the drink habit, the first step in an attempted reformation must be the removal of the appetite, and nothing will do this but an entire abstinence from its provocative and inducing causes

Undoubtedly, opium and alcohol produce effects which differ, but they agree in this that used habitually, they alike tend, by a law as constant as gravitation itself, to establish a tyranny compared with which chains, racks, dungeons and whatever else go to make up the material apparatus of the most cruel despotism are as nothing, for these are outside the man and leave the soul untouched

Christianity is a principle not a law , Christianity is Christian love This fulfills all claims, abstinence among the rest

Respectfully,

J ACKERMAN COLES, A B , A M , M D

Hygiene of Music

MINNEAPOLIS, MINN , Oct 2, 1898

To the Editor —A medical friend having called my attention to your interesting article on "The Hygiene of Music," in your issue of September 24, I beg leave to offer a few suggestions in amplification of your remarks

The question as to whether music appeals exclusively to the emotional appears to be mooted rather one sidedly In music, as in any other field of education, we do not make a sufficiently clear distinction between appreciation and creation Waiving the discussion as to whether the excessive indulgence in either branch (I use this expression for want of a better one) must needs result detrimentally to the individual, I desire to call attention to the fact that when the intellect is to be employed, there is a vast difference between a mere indulgence in rendered music and the execution of music Your esteemed colleague, the recently departed Dr Billroth at Vienna, has left quite extensive notes on music, which were edited and partly published by Eduard Hauslick, the noted Vienna musical critic, in a little pamphlet under the title "Wer ist musikalisch? ' (first published in the *Deutsche Rundschau*, Vol xxii, Berlin) Among other interesting statements, Dr Billroth emphasizes the fact that the practice of music draws upon the intellectual powers To be sure, not in the degree required by the study of Greek, mathematics or the playing of chess, but nevertheless a sufficient call for intellectual activity The student of music, says Billroth, must have "*die Freude an der Ueberwindung von Schwierigkeiten*, that is, "the joy of over reaching difficulties " To this it might be answered that the riding of a bicycle requires the exercise of the same faculty, and yet this should not be called an intellectual employment According to Gladstone (although an axiomatic truth independent of any authority), the safest recreation is a change of employment Bicycle riding, it will be admitted, draws less upon the intellect than the solution of a mathematical problem, yet the powers of quick decision, discrimination, etc are more or less needed in pushing your wheel through a crowded thoroughfare Now, in practicing music, the same, and vastly more, is [illegible] me take, f [illegible] p [illegible] study of the violin

You [illegible] or [illegible] you can

hold

you

can and must get it solely by repetition is now a days discarded by advanced teachers They know that your hands and fingers are directed from the nerve centers in the brain, and accordingly they practice with the "head" and not with the "fingers" And, recurring for a moment to the bicycle A tall, strappy Swede, whom I entrusted with the ennobling task of cleaning my office, remarked that he thought he had to give up the attempt to ride a wheel, "he would never get it" "I presume you are riding it with your legs and feet?" I queried He looked foolish "Well," I said, "you must ride it with your head"

The independence of the fingers in violin playing is a matter of progressive education The fingers of a violin artist are not more fit to exercise a particular employment, requiring dexterity of the fingers, than the fingers of a rapid stenographer or typewriter are for violin playing Even the much praised "limbering up the fingers" is of but limited account in the handling of a musical instrument "Cheiro," the palm reader, notwithstanding his charlatan platitudes, has it correctly when he asserts that pliable fingers are unfit for music, and that "educated fingers" are essential The strict observance of the time (tact) in ensemble playing, certainly calls for intellectual alertness, quickness of perception, and independence of thought from mechanical labor The trained musician reads half a dozen bars ahead while he is playing with "feeling" (*natural or artificial*), and at the same time watches the baton of the leader

Another very important function in connection with musical execution is the memorizing of music pieces This is now done by impressing the image of the musical characters (notes, etc), upon the mind, against the obsolete method of thoughtless repetition The great German violinist, Burmeister, some time ago, performed the feat of memorizing a new, difficult piece while riding in a railroad car, by looking it a few times over He played the bulky concert from memory without missing a single note, or the prescribed shades of forte, piano, etc , so brilliantly that the uninitiated would have sworn this to be the result of mastery gained by many trying repetitions

ARTHUR L HERMANN
Counselor at Law

A Defense of Dr Huidekoper

WOODBURY, N J , Oct 6, 1898

To the Editor —In the *Medical Record* of Oct 1, 1898, there is a short editorial *in re* Prof Rush Shippen Huidekoper, that is so unjust to the man, so absolutely devoid of that *camaraderie* usually characterizing the intercourse of medical men that I ask space to reply to it *It should be all sufficient for a writer in a journal supported by doctors that a man holds a diploma from a reputable school and is himself in good professsonal standing* That he has devoted a number of years to the study and teaching of comparative medicine should not, I take it, be a bar, but rather a recommendation, for any preferment to which he may aspire, or which (as in this case) may be tendered to him These ethics of the *Medical Record* are the ethics of "kites and crows," and should be promptly and unmistakably disavowed by the profession If the only objection to Dr Huidekoper lies in his title of M V Alfort, it would not perhaps be unwise for more of his profession to improve their minds by the attainment of a like disqualification Respectfully, T B ROGERS, D V S

SOCIETY NEWS

American Academy of Railway Surgeons—The following officers were elected for the ensuing year President, W W Grant, Denver, first vice president, T F Pritchard, Manitowoc, Wis, second vice president, J P Lord, Omaha, secretary, T B Lacey, Council Bluffs, Iowa, treasurer, C B Kibler, Corry, Pa , editor, Fred J Hodges, Ashland, Wis Place for holding the next meeting, Omaha, October, 1899 Committee of arrangements J P Lord, chairman, T B Lacey and Fred J Hodges

Western Surgical and Gynecological Association—The eighth annual meeting of this Association will be held at Omaha, Dec 28 and 29, 1898 The local Committee of Arrangements at Omaha is actively preparing for the entertainment and comfort of those who attend Surgeons and gynecologists, and those interested in the progress of these specialties, are cordially invited to affiliate themselves with us The secretary will be glad to send application blanks Titles of papers should be sent to the secretary as soon as possible, but not later than November 20 to insure a place on the program Geo H Simmons, Secretary, Lincoln, Neb

Association of "Big 4" Railway Surgeons—The next meeting of this Association will be held in Cincinnati, November 10 The program includes the following papers

The Diagnosis and Treatment of Lumbago and Back Sprain, J Schneck, Mt Carmel, Ill

The Surgical Consideration of Shock and Its Treatment, A Rhu, Marion, Ohio

The Value of the Hot water Bath in Surgery, T P Satterwhite, Louisville

Address of President, L E Russel, Springfield, Ohio

The best Method for Examining the Eyes and Ears of Applicants for Admission to the Railway Service, C W Tangeman, Cincinnati

The Care of Head Injuries, Webb J Kelley, Galion, Ohio

Report of a Case of Brain Injury, T J Whitton, Nokomis, Ill

The Railway Surgeon and the Company, Geo M Waters, Columbus, Ohio

Hemorrhoids and Their Treatment in Railroad Employes, T M Kyle, Aurora, Ind

Anesthetics—How to Minimize the Danger of Their Use, E H Hyatt, Delaware, Ohio

San Francisco Medico Chirurgical Society—At the meeting for October, Dr Rigdon gave a very interesting demonstration of the instrument devised by M L Harris of Chicago (*vide* JOURNAL, Vol xxx, p 236) for obtaining the urine from either kidney, unmixed The apparatus, as is well known, consists of a double catheter of special form and construction, and of a second instrument, to be introduced into the rectum in men, or the vagina in women, so formed that when in place it will make a ridge along the longitudinal diameter of the bladder The two parts of the catheter are then rotated downward so that one section is on either side of the ridge thus formed If the bladder has been evacuated and washed before the introduction of the catheters, the urine will be drawn from the two sides unmixed, and the condition of the secretion of the two kidneys may then be compared After calling attention to the often almost vital importance of being able to thus differentiate the two kidneys, as to the character of their secretion, Dr Rigdon introduced a patient and proceeded to demonstrate the facility with which the instrument could be introduced and the urine obtained The greatest advantage which this apparatus possesses is that it may be used by any one not equipped with the great manual dexterity required for operating the cystoscope, and also this apparatus may be used in cases where the cystoscope is not available, on account of the abnormal position of the ureters or from profuse hemorrhage or some similar reason The bladder being empty, great care must be exercised in rotating the two catheters after their introduction into the bladder, for the reason that it is very easy to injure the bladder walls The demonstration was eminently satisfactory, and the members present were able to see for themselves both the ease of introduction and the rapidity with which the secretion of the two kidneys could be obtained and examined The patient complained of no pain or distress and seemed not to object in the slightest to the manipulation The curious fact was noted by several of the members that the rate of secretion did not appear to be the same for both kidneys, the right secreting more urine in the time of observation than the left Dr Rigdon expressed it as his opinion that this difference was more apparent than real, as he had noticed that in the course of a little time the other side would in turn secrete more and thus keep the two sides about the same Dr F B Carpenter suggested that an enlarged prostate might interfere with the proper adjustment of the curved catheters and thus prevent the proper application of the apparatus Dr Lane, in discussion, said that he was personally acquainted with two cases where the wrong kidney had been removed by mistake, one of the cases he had himself operated on, and in the second case he had been present at the operation, he therefore called attention to the great importance of differentiating the two kidneys in cases where there was evidently kidney disease but where the exact location of the affected kidney could not be ascertained by palpation or examination It was his opinion that the device under discussion promised well, and he would await further reports as to its efficiency in actual practice, with much hope for favorable reports

PUBLIC HEALTH

Tropon – This new cheap preparation of albumin, recommended as food for the masses (vide JOURNAL, xxx, 1304), is warmly endorsed by D Finkler of Bonn, after long and extensive tests It contains almost pure albumin, is well absorbed, and can be taken for months, even years, in various ways —*Munich Med Woch*, August 23

Hygiene for Children —The recent death of an eight months' child whose head was caught between the side bars of its iron crib, suggests the necessity of furniture better adapted to children How many unnecessary injuries would be avoided if for instance, sideboards, commodes, etc, were made with rounded instead of sharp corners '—*Gaz Méd de Paris*

Culinary Bacteriology —Jager of Konigsberg has been delivering a popular course of lectures on hygiene and bacteriology, in which he has applied laboratory methods to culinary matters and processes His jars with cotton stoppers like culture tubes, filled with cooked and uncooked meats, etc, kept unspoiled from five to fifteen days in the warm hall —*Journal de Hygiene*, September 15

Albumose Milk —A cheap and easily prepared modification of milk for infants has been prepared at the Gottingen University clinic, which has produced excellent results in the infants fed with it to date It is based on the fact that albumose will hold casein in an emulsion and cause it to be precipitated in fine flakes, very much increasing its digestibility They dilute cow's milk with water, add cream and sugar of milk, and finally a certain amount of caseose (casein albumose), according to age of the child —*Deutsche Med Woch*, August 11

Alcoholism in Russia —According to the *Progrès Médicale* of September 17, the authorities of the city of St. Petersburg have suppressed the 25,000 saloons where alcohol was sold, and established in their place 5000 shops under their control scattered a certain distance apart all over the city The alcohol is all tested and sold in bottles of a certain size, not large, sealed with a government stamp No one can purchase more than one bottle at a time in one of these shops and he must walk a considerable distance before he can obtain another, which is absolutely refused him if he shows the slightest indication of drunkenness

Parasites in Game —Megnin reported recently to the Paris Académie de Médecine that he had noted an epidemic among pheasants last year, caused by a tenia, and that he has found the same parasite again in partridges this year His investigations were made at Gueville where the game is raised in large numbers, and over 300 died last year He therefore names the tenia, Davainea Guevillensis, as it differs from the others known The *Bulletin*, September 13, contains descriptive cuts The parasite obstructs the intestines by its size and numbers, hundreds often being found in one bird

High Mortality in Chili —We notice in an article on the sanitation of Santiago in the *Revista Chilena*, that the death rate in Chili from 1885 to 1889 was 30 3 per thousand, and from 1892 to 1896, 31 2 The number of illegitimate births is also high in England the proportion is 1 to 13, while in Chili it is 1 to 3, and during the first quarter of the present year, 1 to 1 3 The natality is larger than in other countries, 45 per thousand, in Germany it is 40, England, 36 and France, 26 The infant mortality is correspondingly high, 37 74 per cent in Santiago

Contagion Among Nurses —Cornet states that two thirds of the members of the religious sisterhoods who work among the sick, die of tuberculosis Rumpel reports 114 cases of disease with 10 deaths, among the 300 nurses employed in the Hamburg hospitals, and 43 deaths among the 2349 nurses in the eighteen Red Cross hospitals in Germany, seven from typhus and sixteen from other infective diseases, during the last three years The total number of cases of disease acquired professionally amounted to 640, including 56 cases of typhus, 53 of diphtheria, 15 of scarlet fever, 6 of measles, 20 of wound infection and 118 of various forms of angina —*Vienna Klin Woch*, September 15

International Quarantine Service in Egypt —This service, established by the International Health Convention at Venice in 1892, now comprises an inspector general with a salary of $3,000 to $3,600, seven superintendents of the sanitary stations Alexandria, Port Said, Suez, Tor, Damietta, Souakim and Kosseir The salary of the first four is $2,400 to $3000, of the rest $1,200 to $1,500 The Tor station is not occupied except during an epidemic, the incumbent residing at Alexandria Besides these there are six quarantine officers with a salary of $1,600 to $2,400, with an indemnity when they are sent to Tor A laboratory for bacteriologic research has been established at Suez, and all the members of the service must be thoroughly trained and experienced in medicine and practical bacteriology with a knowledge of French, German and English at least The various nations interested are all represented, France with four, which includes the inspector general —*Presse Méd*, September 14

Yellow Fever —According to press dispatches since our last report (vide JOURNAL, p 868), the conditions in the South are as follows The total cases number 465 in Louisiana for the summer, with 30 deaths, and 351 cases in Mississippi with 35 deaths, 44 cases occurring in Jackson from September 27 to October 8 In Louisiana the distribution of cases reported to October 8 has been New Orleans, 62 cases, 11 deaths Harvey's Canal, 14 cases, 3 deaths, Franklin, 210 cases, 7 deaths Wilson, 247 cases, 4 deaths, Baton Rouge, 22 cases, 2 deaths, Houma 8 cases, 1 death, Clinton, 2 cases, Plaquemin, 3 cases Jackson 22 cases Bowie, 1 case

In the following parishes (outside of towns above mentioned) cases were reported Iberville parish St. Charles parish St James parish East Feliciana parish West Feliciana parish, Rapiden parish (Alexandria) East Baton Rouge parish On October 8, Hattersburg Miss, reported 20 new cases Jackson 10 Natchez 2 Madison 3 Starkville, 1 Fayette, 2, Hermanville, 1 Taylor's Station 1 Harriston, 1 Oxford 2 and 1 death The reports for October 9 add Poplarville, Miss, with 2 new cases, Lumberton, 2, and 7 new cases at Jackson October 10 reports give Canton, Miss, 3 new cases, Crystal Springs, 2, Waveland, 3, all towns hitherto uninfected

Smallpox in a Summer Hotel—It is not a pleasant event for a busy summer hotel to have to shut up in August or September, on account of an infectious disease among its guests or servants,-especially so when the proprietor knows or is told that the trouble and loss might easily have been prevented This remark applies with special force to smallpox Why would it not be a good standing rule for hotel people to refuse to employ waiters and helpers who have not the evidence of a recent and successful vaccination? The recent experience at a large house, accommodating several hundreds of guests, recites the old, old story of the first cases of variola being mistaken for varicella The mistake corrected itself, after a short delay, and this correction emptied the house Fortunately every effort was made to prevent the spread of chicken pox, while the disease was yet thought to be of that nature, but not soon enough to prevent exposures, in greater or less numbers Late in August the correct diagnosis was made and the usual preventive measures begun There were several hundred guests at the hotel, on August 28, who left on that day, scattering to the four points of the compass Twenty six cases of the disease, all among the servants of the house, were reported Of these twenty one were among the colored help, and nearly all of these hailed from Asheville, N C, in which State not a few cases of smallpox have occurred since January last There was one death The hotel was closed and no new cases have been reported since the quarantine was established Hotel reputations are so susceptible of lasting injury that their proprietors can ill afford to take unnecessary risks about smallpox among their employees They may with especial propriety keep a sharp lookout as to servants coming from those Southern states where a smallpox is known to exist and where sanitary boards have but little preventive authority It is almost as important for hotel servants to be well protected by vaccination as for nurses barbers, and railroad employees

NECROLOGY

Deaths Abroad—Professor Crocq of Brussels, in his seventy-fifth year, who has so ably represented Belgium in international gatherings and scientific achievements, founder of the *Presse Méd Belge*, president of the Federation Méd Belge, appointed professor in 1855, author of numerous articles "Lead Acetate in Pneumonia," "Study of the Penetration of Solid Particles Through the Tissues," "Application of Auscultation and Percussion to the Horse," "Treatment of Tuberculosis," etc——F Malanco, Mexico, a prominent physician, founder of the *Medicina Cientifica*, and a frequent contributor to other Mexican exchanges

Herman S Beahan, M D, Rochester, N Y, October 2——F P Bibby, M D, Coffeeville, Miss, September 27——J F Boyce, M D, Santa Rosa, Cal, September 30——John Burnett M D, Scranton, Pa, September 30——J B Curtis, M D, Somerville, Mass, October 2, aged 31 years——Hubert D Ensign, M D, Boone, Iowa, October 2, aged 55 years——J C Herrick, M D, Denver, Colo, September 30, aged 54 years——W F McLean, M D, Elyria Ohio, October 5, aged 65 years——S B H Nichols, M D, Corning, N Y, September 30, aged 63 years——James L Ord, M D, Washington, D C, October 3, aged 75 years——D L Paine, M D, Oregon City, Ore, September 30, aged 55 years——R R Ruff, M D, Pitnam, Ark, September 21, aged 67 years——C H Sevier, M D, Brownsville, Tenn September 30, aged 59 years——D W Whittaker, M D, Chattanooga, Tenn, October 3, aged 47 years

MISCELLANY

Personal—Dr Norval H Pierce has resumed his practice, at 31 Washington St, Chicago

Dr Michael Foster, who has just been elected president of the British Association for the Advancement of Science, has been professor of physiology at Cambridge since 1883 He will assume office next year, at the meeting in Dover Sir William Crookes, occupant of the chair this year, is a chemist, his immediate predecessor, Sir William Evans, is an archeologist, while Lord Lister was president in 1896

Requirements for the Practice of Medicine—We have received from Secretary Egan, advance copy of that portion of the annual report of the Illinois State Board of Health, relating to the legal requirements for the practice of medicine in the different parts of the United States, including the territory of Hawaii Its completeness is creditable to the energetic secretary

Higher Standard for Dentists—The Association of German Dentists passed resolutions at its recent annual meeting at Eisenach, urging the authorities to require higher educational attainments of students of dentistry, and a longer course in the university, raising the standard from the certificate of the first grade in the "gymnasium," as at present, to the diploma of a "gymnasium" or "real gymnasium" (high school)'—*Munich Med Woch*, August 23

Science Reveals Nature's Beauty—In his presidential address before the British Association, Sir William Crookes speaks thus brightly to those who are, with him, engaged in wresting the hidden secrets from nature "Steadily, unflinchingly, we strive to pierce the inmost heart of nature, from what she is to reconstruct what she has been, and to prophesy what she shall yet be ' Veil after veil we have lifted, and her face grows more beautiful, august and wonderful, with every barrier that is withdrawn"

Railway Casualties in 1897—In the year which ended June 30, 1897, 6437 passengers on American railways were killed in accidents, and 36,731 were injured A *New York Times* writer, with an arithmetic bent, has figured that only one out of 2,204,708 of the whole number of passengers carried was killed outright, and only one out of 175,115 injured With the total mileage as a basis, the statician figures that the traveler with average luck escapes injury until his journeyings amount to 4,385,309 miles, and not until his score is 55,211,440 miles is it his turn to get killed Traveling 30 miles a day, 300 days in the year, no one need begin to worry until he is 5,467 years old

Rush Medical College—Upon the first year of its affiliation with the University of Chicago Rush Medical College starts out with a class of over 700 students This is especially gratifying to its friends as it shows that physicians and students throughout the country favor higher medical education and appreciate the rigid requirements that are now being enforced As a result of the demands for ample preliminary education, many men have been shut out of the Freshman class, and the policy of sifting out the poorer men from the other classes has elevated the grade of those already in the college After the examinations at the close of the last term, eighty men were notified that they could not advance to the higher classes unless their scholarship could be brought up during the summer months Many of these have dropped out of the college Thirty have been required to take the work of the previous year over again, and the remainder have been given until the fifteenth of November to try to make up their deficiencies, at which time, unless they can remove the conditions, they, too, will be remanded to the lower classes

Oidomycosis—Besides bacterial infection and infection from the streptothrix, we must now make a place for infection from pathogenic blastomycetes, which has been experimentally and clinically established The best known of this group is the saccharomyces albicans, which usually is content to vegetate on a mucosa, but occasionally invades the entire organism and produces a fatal disease Busse reported a case of chronic pyemia caused by a saccharomyces, which produced similar lesions experimentally Curtis also has reported the case of a myxosarcoma of the thigh, containing a yeast fungus, and such cases are multiplying H Roger contributes an article to the *Presse Méd* of August 24, describing the lesions produced by rabbits inoculated with the oidium The granulations invaded the entire organism, and caused hypertrophy of the kidneys, etc (*vide* JOURNAL, pages 199 and 417)

Primary Tuberculosis of the Kidneys —In Professor Israel's operations on the kidneys 10 per cent have been on account of tuberculosis, and in sixteen out of twenty one it was evidently a primary affection He has found it more frequent in women than in men, and unilateral in chronic cases He removed the entire organ in twenty cases Three died from the immediate results of the operation, five deaths occurred later, after partial or complete recovery In regard to the final results Three of the uncomplicated cases died, but the remaining six were permanently restored to health (observations dating from nine years) None of the cases with complications were cured, although some were benefited to a remarkable extent He advises an early operation in simple primary tuberculosis, or if the bladder is but slightly involved He does not operate in secondary ascending tuberculosis, unless to relieve serious disturbances —*Vienna Klin Woch* , September 15

Neuralgia —A Eulenburg contributes a study of the pathology and therapeutics of neuralgia to the *Berlin Klin Woch* , No 33 He does not consider it a definite disease of the peripheral nerves, but attributes it to morbid conditions in the nerve cells, determined by various primary affections of the peripheral sensory neurons Essential neuralgia is distinguished by the characteristic attacks of pain, with intermissions and spots painful to pressure Excentric, that is, neuralgia affecting the roots and root fibers, is characterized by the brevity of the attacks, lancinating pains, while in topic peripheral algias the pain is generally continuous and there are no especial paroxysms He separates hemicrania from the neuralgias, and also asserts that what is called intercostal neuralgia is due to entirely different processes Many cases of ischias, he states, proceed from acute or subacute localized perineuritis of the ischiadicus, propagated *per continuitatem* by the lumbar muscles or primarily affected nerves He frequently arrests and cures ischias with deep injections of 2 per cent carbolic solution —*Munich Med Woch*

Ano rectal Actinomycosis —This is a rare affection, with only seven cases on record Poncet described another observation recently, illustrating his remarks with color photographs, the first application to pathology of the new photography of colors, which "opens a new field for medical iconography " The bladder was secondarily affected, with numerous calculi, some containing fragments of wheat grains—the patient confessed to having inserted a head of wheat in the urethra The ano rectal lesions might at first glance be mistaken for tuberculous, but their special aspect, their color varying from violet to a yellowish red, punctured with yellow points, the slowness in developing, and the presence of the characteristic yellow grains in the pus, soon differentiate it The prognosis is grave, although life may be prolonged many years If internal treatment with potassium iodid proves ineffectual, ablation of the masses and incision of pus pockets are indicated Extensive interventions are justified, as repair progresses rapidly in the tissues which appear to be so profoundly affected, although intervention rarely proves more than palliative —*Bull de l'Acad de Méd* , September 13

The English Tourist Dr Henry S Lunn —Dr Henry S Lunn, the English physician who is well known in England and America for developing the personally conducted touring system, is this year entering upon a decidedly novel plan He has decided to send a couple of sporting and scientific expeditions into the wild regions of Somaliland The cost of these expeditions will be about $3000 for each member, but this includes all expenses for three months a retinue of fifteen servants, twenty camels and two riding horses each, beside the tents and equipments Personally, Dr Lunn is most genial He has had a rather varied career In 1887 he left England for the Indian mission field as a medical missionary As correspondent to the *Pall Mall Gazette*, he attended the Indian National Congress, becoming intimately acquainted with the leaders of the movement, and lecturing to large assemblies of educated Hindus on the development of their national life The vigor with which he threw himself into his Indian work was responsible for a series of attacks of malarial fever, and he was ordered home only twelve months after he had entered the work Dr Lunn is not yet 40 years of age

A Lesson to the Unwary —Medical men in England are dissatisfied at the outcome of a libel suit brought by Dr Morgan Dockrell, physician to St John's Hospital, against the manufacturer of a medicinal water which the doctor had praised and occasionally prescribed The defendant printed and published a circular in which he declared "Dr Dockrell says nothing has done his gout so much good " The jury found that these words were in no wise injurious to the plaintiff's reputation, and hence the High Court of Justice refused to restrain the further publication of the advertisement Dr Dockrell's contention was that the circular conveyed the idea that he was a party to the advertisement, which would be a violation of professional etiquette on his part, and would have rendered him liable to expulsion from the medical societies to which he belonged The jury, however, refused to take this view, and evidently deemed the language justified by what the plaintiff had actually said in commendation of the mineral water in question —*N Y Sun*

School of Medicine for Women New science laboratories in connection with the London School of Medicine, have been opened The school was established nearly a quarter of a century ago, and during this time the work has been carried on in three houses, under most inadequate conditions The leases of these buildings having expired, the site has been obtained and cleared for the new building, which will be erected in three separate stages and is to consist of three blocks The first block, which has already been completed, contains the new laboratories The cost has been between £9000 and £10,000 There are adequate rooms for the teaching of chemistry, physiology, anatomy and physics At present women are enabled to obtain a degree or diploma from nine of the medical examining bodies of the United Kingdom, six of them being universities Since the school started, the students have obtained several gold medals at the London University and at the Royal University of Ireland At the present time the students number 170 Of those who have passed out of the school with a medical qualification some are engaged in responsible work as medical practitioners, some at the new hospital, others in workhouse infirmaries, in asylums, and in various provincial hospitals Others are in India, South Africa, China and Australia

A Defense of Chief Surgeon Girard —The many fierce, not to say brutal, attacks on Lt Col and Chief Surgeon Girard, who is well known to be one of the ablest and most painstaking officers in the army, has led many of his colleagues to write him their personal views of his services We are permitted to extract the following from one of the pleasant tributes thus presented It is from a volunteer surgeon, now mustered out

EXTRACTS FROM LETTER

'I desire to state that I have at all times enthusiastically approved your plan of Division Hospitals, and I am sure that the public mind seems to be gradually coming to its senses in this regard

'It is a probable and an [illegible] ance that t *great mass of the American people will perhaps never fully* realize the almost insurmountable difficulties met and overcome in organizing, harmonizing and equipping the medical corps of the *various regiments of your* command, and the endeavor to elevate their efficiency to something like the standard of the regular army As you know, many of these regiments were absolutely without arms or *equipment of any* kind, when they reached Camp Alger, and it has been truthfully said that 'in some cases there was scarcely cover for the nakedness of the men '

"It became necessary to immediately arrange for the care of the sick This was especially noticeable in the case of the But to return to the subject With a medical corps scarcely organized, some officers even without commission, with no hospital privates, other regiments but partially organized, none thoroughly equipped, and even if fairly well organized and equipped, the military requisites of subordination and discipline were lacking The spirit of opposition characterized by delay and general indifference manifested by some of the volunteer medical officers, as well as regimental commanders, is still fresh in my mind

"The rapidity and completeness in overcoming these obstacles *certainly points to the credit of your command,* and your many years of military training and business tact are the prime factors in its success

"It is true that some medical officers did at times complain of trivial delays and possible lack of equipment, but as a rule the basis of these complaints was groundless There never was a time when their requests were not promptly honored, if reasonable, and supplies promptly granted when circumstances permitted These complaints as a rule were voiced simply for effect, as a general disapproval of what certain volunteer officials considered an interference on part of the regular army officials with the rights of the volunteer

"That such harmonizing was necessary is evident, that it was accomplished is apparent in the present efficient management of these departments Having overcome all these difficulties with complete satisfaction to all, is certainly a glowing tribute *to your faithful* and *untiring efforts to excel* in the efficiency of your medical corps All these conditions I describe fully in my sanitary report which I am now preparing *for* the Surgeon General

"In conversation with a number of my friends shortly after I arrived at Camp Alger, I was frequently asked 'how I liked Chief Surgeon Girard?' It was the general opinion among them that you were the right man in the right place They said 'Girard is considered the best disciplinarian in the Medical Department of the U S Army ' To some this perhaps seemed a fault, but I consider it to be the highest compliment, and I congratulate myself upon being so fortunate as to have been under your medical direction, as I am fully aware that without discipline organization can not be maintained nor progress assured "

Hospitals

The new St Joseph's Infirmary, Fort Worth, Texas, was formally opened September 29 It is a fireproof, three story structure of brick, 170 by 150 feet ——The new hospital for the special treatment of tuberculosis at Dunning, Ill , was dedicated October 8 The cost of the building, three stories in height, was $54,200, with furnishings $64,200

Societies

The following recent meetings are noted

Illinois —Chicago Medical Society, October 5, Chicago Pathological Society, October 10, Will County Medical Society, Peoria, October 11

Indiana —Upper Maumee Valley Medical Association, Fort Wayne, October 6

Iowa —Cedar Valley Medical Association, Waterloo, October 11, Clinton County Medical Society, Clinton, October 4, Polk County Medical Society, Des Moines, October 4

Missouri —Jasper County Medical Society, Joplin, October 4, Medical Society of the City Hospital Alumni, St Louis, October 6

New York —Broome County Medical Society, Binghamton, October 4, Onondaga Medical Society, Syracuse, October 4, Orange County Medical Society, Newburgh, October 4

Ohio —Marion County Medical Society, Marion, October 4, North Central Ohio Medical Society, Marion, September 30

Pennsylvania —Lackawanna Medical Society, Scranton September 30

Vermont —State Medical Society, Brattleboro, October 13 and 15

Cincinnati

Hospital Internes —On October 10 the terms of service of four of the internes of the Cincinnati Hospital will expire, they are Drs H J Ware, Edward Francis, William Muhlberg and Percy Shields Drs H H Hines, C F Beeson and A H Smith will take their places Dr T S Morrison, the other successful candidate, is at present in Manila, assistant surgeon of the First Regiment, Wyoming Volunteer Infantry, a part of General Merritt's immediate command

Academy of Medicine —At the regular meeting, October 3, Dr C A L Reed read a very interesting paper on "Fat and Fecundity "

Dr Charles H Castle, surgeon First Ohio Cavalry, is in the city, waiting for the muster out

Dr S P Kramer writes from Camp Wikoff as follows "The *typhoids are very typic, but in many cases they are* associated with malaria One sees cases that are clinically undoubtedly typhoid, and in addition the plasmodium of malaria is found in the blood " In speaking of malaria he says "The malarial cases are not typic at all Very few are purely intermittent, *most of them are remittent,* and *many of a* pernicious nature In the latter cases the best results are obtained from the hypodermic administration of the double chlorid of quinin and urea " The dysentery prevailing, the doctor thinks, is largely due to malarial poisoning The yellow fever cases, he says, are few, and there is little or no danger of the infection spreading

Philadelphia

Pamphlet on Yellow Fever —As yellow fever prevails in several sections of the South, with the probability of its spreading still further, the State Board of Health has been energetic in educating the laity regarding the nature of, the disease and it proper prevention Looking to this end a pamphlet has been printed and is being *freely distributed throughout* the State, giving all of these necessary details and pointing out that the baneful effects are not so severe as is generally supposed

Dr Pepper's Successor Still Sub Judice —At a recent *meeting of the trustees of the University of Pennsylvania,* the subject of Dr Pepper's successor was again presented for discussion, but owing to the action taken at a previous meeting, distributing the work among four of the faculty, no definite action was taken Didactic lectures will be given by Drs Stenger, Musser, Packard and Fussell, while Dr James Tyson will have full supervision over both this department and the clinical lectures until the trustees take some definite action in the disposition of the chair The four years' course of eight months each demanded by this institution, has not kept down the number of matriculates, but, in fact just the reverse has occurred It is a matter of serious reflection why so many men go into the medical profession, whether it is due to the hard *times which impels them to choose something,* or whether it is from other causes

Public Schools and Diphtheria —From the fact that diphtheria has been so prominent in several of the public schools of the city, the Bureau of Health is using every effort to prevent the disease from spreading To this end, therefore, it is that suggested to keep down these local outbreaks that the *schools be thoroughly disinfected daily in the following* manner "The daily sprinkling of the floors before sweeping with a disinfectant solution, the use of individual drinking cups and the disinfection of pencils The attention of the Bureau of Public Education has been called to most of these unsatisfactory conditions, but it is doubtful if any special attention has been given to the matter It is work that can and should be done by the Board of Education The desk tops should be wiped off daily with a disinfectant solution and the hand rails should be treated in the same way *It would not be safe to* use a solution of bichlorid nor even carbolic acid " It is suggested that these suggestions be given to the janitor in order that they be carried out A paper was received and referred to the Board, asking that disinfectants also be put in the street sprinkling wagons in order to destroy the germs which make their habitat in the dust of the public thoroughfares

Dr Pepper Esteemed —It is stated that members of the International Advisory Board of the Philadelphia Commercial Museum very frequently receive letters of condolence from friends of Dr Pepper in all parts of the world These letters not only show that he was known as a physician of distinguished ability, but as a public spirited citizen In Mexico, where he presided over the deliberations of the Pan American Medical Congress, marked honor has been shown Delegates to the meeting held at the Philadelphia Commercial Museum also pay high tribute to his memory The Mercantile Confederation of the Republic of Mexico, at a recent memorial meeting, President Diaz being present, and at which time the national flag of that republic, with that of the United States, were entwined about the hall with a tinge of crape, gave a heartfelt feeling to the words spoken in honor of the name of William Pepper

Pay for Soldiers —The government has recently inquired of the hospitals of this city as to the amount required by each of them for the care and treatment of the sick soldiers brought here So far no definite arrangement has been made toward asking the government to defray the expenses for this trouble, and it seems the action of the government has been voluntary It is reported that those soldier patients now in the New York hospitals each receive pay at the rate of 93 cents a day The treasurer of the National Relief Association ackowledged receipts of money and supplies aggregating the sum of $107,511 48

Tuberculosis still Decreasing —In the annual report of the Pennsylvania Society for the Prevention of Tuberculosis, facts are tabulated showing a gradual decrease in the number of deaths from this disease In Philadelphia statistics are presented proving these claims In 1870 there were 2308 deaths, or 3 42 per 1000 of the population, in 1880 the percentage was 3 17, in 1890, 2.64, and in 1897, with 2385 deaths, the percent-was 1 96 A site at White Haven, Luzerne County, has been offered to the society for a sanitarium, and it is hoped that proper aid will be given by the State for the erection of a building suitable for the care of those suffering from consumption

Bequest of $400,000 —Through the death of Joseph M Bennett of Philadelphia the University of Pennsylvania will receive property to the value of $400,000 The provision making the bequest is as follows "I will and bequeath to the trustees of the University of Pennsylvania the property, 1021 Chestnut Street, adjoining the Chestnut Street Opera House, also the properties 3340, 3342, 3344 and 3346 Walnut Street, being east of the properties which I have heretofore donated at the corner of Thirty fourth and Walnut Streets, known as Bennett Hall to said trustees Now, my object in making this bequest is to further aid and encourage the said trustees in carrying out more practically and thoroughly the co education of women and girls in relation to the scheme which has been commenced in the said houses," etc

Mortality Statistics —For the week just closed the records of the Bureau of Public Health show that there have been 408 deaths, 137 being children under 5 years of age The following are the principal causes Alcoholism 2, apoplexy 17, nephritis 20 cholera infantum 8, cholera morbus 1, tuberculosis 42, membranous croup 4, diabetes 1, diarrhea 2 diphtheria 22, heart disease 27, typhoid fever 14, dysentery 4, homicide 1, marasmus 31, septicemia 3, suicide 1, tetanus 1 uremia 7, whooping cough 2

Hospital Train Sent Out —Jefferson Medical College recently dispatched a hospital train to Camp Meade, returning with fifty two patients It is stated that most of the patients were in a very serious condition The train was in charge of Dr H A Hare, assisted by Drs M H Williams, E H Wiggins, J L Scallinger and Hiram R Loux A corps of twelve nurses accompanied the train

Camp Meade —Dr Shakespeare, a member of the board appointed by the War Department to investigate the prevalence of typhoid fever among the different army camps, has been detailed to make report regarding the conditions existing at Camp Meade It is stated that in this camp the disease is mostly confined to the troops belonging to the Two Hundred and Second and the Two Hundred and Third Regiments of New York

The Jefferson and Medico Chirurgical Medical Colleges —During the week just passed both of these institutions began their sessions for the coming year At the Medico Chirurgical, exercises were also held in the dental and pharmaceutic departments, both of which have been recently established

Salaries of Prison Inspectors —A recent decision of Judge Pennypacker of Philedelphia, handed down in a contested case, states that the Board of Prison Inspectors of the county prison and not the city councils have the right to fix the salaries of officers of the county prison

Washington

Health of the District —The report of Health Officer Woodward, for the week ended October 1, shows the total number of deaths to have been 106—48 white and 58 colored The principal causes of death were Nervous diseases, 13 genito urinary, 7, circulatory, 4, intestinal, 10, typhoid fever, 4, diphtheria, 7, measles and whooping cough, 1 each At the close of last week there were 79 cases of diphtheria under treatment, and 44 new cases reported during the present week, 19 were reported cured, leaving 104 cases under treatment at the close of the present week There were 68 cases of scarlet fever under treatment at the close of the week Dr Woodward says there are a large number of cases of diphtheria in the district One year ago the number was 44, while this year, on the corresponding date, there are 108 cases, an increase of more than 200 per cent The cases existing at present are distributed among 79 places, while those of a year ago were located in 36 places He says the large increase in the number of cases is accounted for by the improvement in diagnosis Cases which formerly were called sore throat or tonsillitis or croup, are now known to be diphtheria, and after bacteriologic test, are reported as diphtheria The increase in the number of cases is of course accompanied by an increased death rate The disease is more prevalent among the poorer classes, and ignorance and carelessness on the part of these people is largely responsible for the increase of the disease I know of five cases where children were ill before a physician was summoned, one of whom being so ill that it died the day the doctor was called The opening of the schools is usually another cause for the increase of the disease, due probably to the massing of a large number of children We are doing all we possibly can to check the spread of the disease, but we are greatly hampered by the limited authority of the Health Department

Army Investigation —Surgeon General Sternberg, in reply to the questions relating to the Medical Department management, forwarded to him by the Investigating Commission, replied as follows

To President of Board to Investigate the War Department

Sir —I have the honor to submit for the Committee of Investigation, the enclosed statement relating to responsibility in the Medical Department of the Army I respectfully suggest that the commission as a whole or a sub committee, visit the office of the Surgeon General at an early day for the purpose of investigating the organization and methods of work which have been employed in my office during the war with Spain I have received a copy of the questions relating to the Medical

Department, and shall do my best to answer these questions in full at as early a date as is practicable, but considerable time will be required, owing to the enormous amount of important official business, pertaining to the regular administrative work of the office To neglect this would give just cause for criticism, and I am sure that the commission will agree with me, that my first duty is to provide for the proper care of the sick of our army, in the field and in garrison, so far as this lies in my power This has been my earnest endeavor from the outset of our short and glorious war with Spain Very respectfully,

GEORGE M STERNBERG, Surgeon General U S Army

MEDICAL ASSOCIATION —The regular stated meeting of the association of the district was held on the 4th instant The Standing Committee, who had been entrusted with the enforcement of the regulations governing medical charities in the district, reported that all the hospitals were carrying out these rules and regulations, both in letter and spirit The following were elected to active membership Drs Chas E Furgeson, Bernard L Hardin, Frederick M Hartsock, Harry Hurtt, L Fleet Luckette, C H Mechineck, W P Malone, Wm Gerry Morgan, John B Mullins, Wallace Neff, Edward D Perkins, T Lyman Perkins, John J Repetti and Stanley S Warren

DISTRICT MEDICAL SOCIETY —At the meeting of the medical society, October 5th, the following were elected to membership *Drs Isabell Haslup, Maurice E Miller, Jessie Ramsburgh*, John C Simpson and Victor E Watkins Dr James Kerr read a paper entitled, "Treatment of Colles' Fracture by Gordon's Splint" *He presented the splint of Dr Gordon* of Belfast, explaining its special advantages based upon the skiagraphic study of this fracture, and showed the disadvantages of *the other methods of treatment He said the use of* the Gordon splint had given universally good results in his cases An interesting discussion followed, pro and con, participated *in by Drs Hammond, Van Rensselaer, Hough* and Frederick In closing, among other things, Dr Kerr said facetiously, that the bad results reported by the speakers *occurred in the cases* where the Gordon splint had not been used The president, Dr Busey, announced the death of Dr Draughbaugh in the army at Santiago, and upon motion a committee was appointed to draft suitable resolutions to be sent to the family of the deceased

DR GALLINGER —Dr Ralph E Gallinger, son of Senator Gallinger, has resigned from the assistant staff of the Central Dispensary and Emergency Hospital, and has begun practice in Concord, N H

DEATH OF DR BREWER —Dr Madison M Brewer, one of the surgeons who recently returned ill from Santiago, died of typhoid fever at Garfield Hospital on the 3rd inst Dr Brewer was son of Dr John Brewer, U S A, was a graduate of the Columbian Medical College, and formerly resident physician at the Garfield Hospital

CHANGES AT THE EMERGENCY HOSPITAL —The term of service of Dr James D Fife expired on the 30th ultimo, and Dr W N Glover was appointed resident physician to succeed him Dr W H Mohart became first assistant, and Dr Thompson, of the University of Virginia, who recently passed the competitive examination, was appointed second assistant resident

REPORT OF COMMISSIONERS OF PHARMACY —Dr John T Winter, president of the Commissioners of Pharmacy, has submitted their annual report for the year ended June 30 The report shows that thirty applicants were examined during the year Eight of the applicants passed satisfactory examinations and were licensed, twenty two failed to pass after a second examination, and were refused registration, thirty seven graduates of chartered colleges of pharmacy were registered on the presentation of their diplomas

GEORGETOWN MEDICAL SCHOOL —The Medical Department of the Georgetown University began its session on the 2d, with a large increase in the number of its students The University Hospital is doing *excellent work* The Emergency Department is in charge of Dr W C Gwynne as resident, and Dr James J Kilran as extern Dr J J Kinyon was appointed Professor of Pathology and Bacteriology, D J D Morgan, Professor of Clinical Medicine and *Dr C L Allen*, Clinical Professor of Diseases of the Nervous System Dr J W H Lovejoy resigned the chair of Theory and Practice of Medicine, and was elected Emeritus Professor of Theory and Practice of Medicine Dr Samuel S Adams has been elected his successor Dr Lovejoy was one of the original faculty at the opening of the school in 1851, holding the chair of Professor of Chemistry until 1854 In 1880, after an interval of twenty six years, Dr Lovejoy re entered the faculty as Professor of Materia Medica and Therapeutics which he continued until 1883, when he was elected to the chair of Theory and Practice of Medicine, on the resignation of Dr Samuel C Busey

MEDICAL DEPARTMENT COLUMBIAN UNIVERSITY —The Medical and Dental Departments of the Columbian University opened their respective schools on the 3d instant Dr W W Johnston, Professor of Theory and Practice of Medicine delivered the address to the medical students, and Dr J Hall Lewis, Dean of the Dental Faculty, addressed the dentals Dr E A DeSchweinetz, Dean of the Medical School, announced the formal opening of the Columbian University Hospital

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CHANGE OF ADDRESS

Black, J F from Springfield Mass, to 244 E 19th St, New York N Y
Bindley J H from Cincinnati, Ohio, to Hicks Bldg San Antonio, Texas
Druet, A L from Hiteman to Marysville Iowa
Donohue, M J from Chicago, Ill to Clintonville, Wis
Feltwell A L, from Altoona, Pa, to 1528 Snyder Ave, Philadelphia, Pa
Frahm M from Tuscola to 288 Michigan Ave Chicago Ill
Faris, J W, from Caruthersville to Female Hospital, St Louis Mo
Gurney, G S, from 286 E 7th to 263 Sherburne Ave, St Paul Minn
Glasgow, F A, from 2608 Locust St to 3894 Washington Ave St Louis Mo
Haubold H A, from Elberon N J to 140 E 72d St New York City
Hawthorne E W, from New Cambria to Gypsum City, Kan
Kuhn, G A from 262) St Louis St to 2702 N Grand St Louis, Mo
Kirkbride M T, from Spring Lake Beach, N J, to 2212 Green St, Philadelphia Pa
Kaestlen, S E from 615 Lorain to 50 McLean St, Cleveland, Ohio
Little W J, from Madison Neb to Independence, Mo
McDougall, C D from Hixon to Athens, Ohio
Montgomery F from Mt Sterling to Clayton, Ill
Moore J E, from Cumberland Ohio, to Alliance, Neb
McGahan, C F, from New York, N Y, to Aiken, S C
Nolder S M, from Tipton to Elwood, Ind
Rogers M W, from Carlton to Alexander, Texas
Simpson B S, from 4[illegible] Delmar to 4227 Finney Ave St Louis, Mo
Schorr, E from 361 Antoine St to 114 Elizabeth St E Detroit, Mich
Smith, E F, from 2[illegible]7 W 44th to 308 W 45th St, New York N Y
Smith, P C from Bellvue to Assyria Centre Mich
Sloan, I, from 274 W 12th St to 186 Hermitage Ave Chicago Ill
Tabb, D R from Chicago, Ill, to U S Marine Hospital Reedy Island, Del
Williams E C, from Bloomington to 628 W Adams St Chicago Ill
Wright, M J from Mason to 602 Michigan Ave W, Lansing, Mich
Zapffe, F, from 311 E North Ave to 92[illegible] Warren Ave Chicago Ill

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LETTERS RECEIVED

American Therapeutic Co, New York N Y, Ammonol Chemical Co New York N Y, (2)

Bischoff C & Co, New York, N Y, Blodgett, F J, New York N Y Bower G S, Ransom Ill, Brown, Alice C New York N Y Bromine Iodine Chemical Co Binghampton N Y Billings Frank, Chicago, Ill Bailey, S, Mt Ayr Iowa Blackbourne F E Beltown Wis Bailey Steele Stanford, Ky Briggs E Wilmington Ohio

Carter Geo D, Saverton, Mo Chandler, J G, Detroit, Mich Choate D Salem Mass

Daily M Sheldon Iowa

Edes, Robt T Jamaica Plain, Mass Emanuel H W, Minor, N D Erwin, A J Mansfield Ohio

Fuller's, C H, Adv Agency, Chicago Ill Ferguson E D, Troy N Y Forman, B H, Ione Cal

Gihon, A L, New York, N Y Galloway D H Chicago, Ill Gibson, Robt, Watford Ontario, Guiteras, John, Philadelphia, Pa Garber S C Camden, Ark

Haubold, H A, New York N Y Holstein Geo, Bridgeport, Pa Haldenstein, I, New York N Y Howard C Norman, Washington D C Hurty J, N Indianapolis, Ind, Heddens C H Wellsburg Iowa Hermann A L, Minneapolis Minn Hummel A L Adv Agency, New York N Y (2)

Johnson, C H, Grand Rapids Mich Jarrett H S, Towson Md

Kinnaman R C, Ashland, Ohio Kimball C B, National Military Home, Ind Kreveling Geo B, Philadelphia Pa Kefauver C A Stoutsville, Ohio Kearney C A, Farley, Iowa, King, F R Anita Iowa Keener, W T Chicago Ill Kempson, J F, New York N Y

Meinert & Fisch, Remsen Iowa Malt Diastase Co New York N Y (2) McLain W H Wheeling, W Va Mathews, J M Louisville Ky McLean & Co S F, New York N Y Miner, W W Ware Mass, Moure, E J Bordeaux France Mayer Emil, New York, N Y Moore W A, Hindsville Ark

Outten W B, St Louis, Mo, Ottolengui R New York N Y

Publishers Collection Agency, Chicago Ill Putnam's G P Sons New York N Y Parker E F Charleston, S C Plummer, C G, Salt Lake City, Utah Pike, E R, Abington Conn Paquin Paul Laboratories St Louis Mo (2)

Reeve D N Allison Iowa Rogers John Jr New York, N Y, Reed, C A L Cincinnati Ohio Reed W W Fowler, Colo

Shotwell A N Mt Clemens, Mich Sherer J W Kansas City Mo Shaffer, J W, Sandusky Ohio, Stout, J C Oakland Cal Stewart F H Brooklyn N Y Sutton E M *Peoria Ill* Smart Chas Washington D C

Thayer Chas P, Boston Mass Taylor, M B Trion Tenn Tyson James Philadelphia Pa Thilo Geo, Jr, Chicago Ill Taylor, A N, Orlando Fla

Womack C W *Chapel Hill Tenn Wishart, J S Toronto Canada* Wellington, J R Washington, D C Willard, L M Wausau Wis Wordin N E Bridgeport, Conn, Weaver, Geo H, Chicago, Ill Webster, David, New York, N Y

Zenner, Philip, Cincinnati, Ohio

The Journal of the American Medical Association

Vol XXXI CHICAGO, ILLINOIS, OCTOBER 22, 1898 No 17.

ADDRESSES

THE RISE, PROGRESS AND PRESENT NEEDS OF PEDIATRICS

Address of the Chairman of the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY J P CROZER GRIFFTH, M D

CLINICAL PROFESSOR OF DISEASES OF CHILDREN IN THE UNIVERSITY OF PENNSYLVANIA

PHILADELPHIA PA

The honor which you have done me in electing me your chairman brings with it the duty of opening the session with an address I have chosen as my subject one of great importance to us, one in which I have felt great interest and to which I have given considerable thought during a number of years, and I dwell on it now hoping to awaken in you, if need be, an equal interest in the matter, and that together we may aid in advancing the position of the branch of medical science which we represent today The subject to which I refer treats of the rise of pediatrics as a specialty, its present position as compared with its past and its needs for future growth I can give you but an incomplete sketch, lacking in very many of the most important details

One is often surprised that our medical forefathers knew so much One is also surprised that they knew so little, and yet were undoubtedly useful members of society They had the distinct advantage over us that each man, if well trained, knew all of everything medical that there was to be known This was because there was not so much to know The enormous additions to medical knowledge which went on as years passed rendered the arising of specialties in medicine an absolute necessity, yet it appears strange that pediatrics should seem to have developed so slowly as a special department That no special teaching of it was given in any medical schools was probably due to the grave mistake of viewing the child only as a little man, of imagining that the teaching of the " Principles and Practice of Medicine ' gave ample preparation for the encountering and mastering of the infant's disorders, and later of making the curious assumption that because a physician understood the diseases of women he must therefore necessarily have special cognizance of diseases of children—a view still prevalent in some quarters but waning rapidly

But as a matter of fact the recognition of diseases of children as a specialty was developing long before the fact was appreciated The branch has existed always Every practitioner of every age had to learn it to some extent, although unfortunately this was accomplished often only at the expense of the lives of his little patients The urgent demand for post-graduate instruction less costly of life than this was followed naturally by the production of special text-books, by the development of journal literature on pediatric subjects, and finally, and much later, by the establishment of special hospitals for children, of special medical societies to study their diseases, and of special instruction given to undergraduates—a much better plan than that of trusting to that expensive teacher, Experience

Let us look briefly at the development of pediatrics in these different respects

Text-books —Many matters in the domain of diseases of children are treated of in the works of the ancients, but the first book devoted solely to the subject, as far as I can learn, was written by Demetrius of Apamia about 260 B C, and was entitled "De morbis puerorum " Then in the Middle Ages we find a work by El Rhazi, about the end of the ninth century, A D, called "De ægritudinibus puerorum " In 1472 appeared the work of P Bagellardus of Fiume, "De ægritudinibus et remediis infantum," and in 1473 Metlinger's book " Ein vast nutzlich Regiment der junger Kinder," which, according to Hennig, was the first printed book upon the diseases of children The first book about children written in England was by Th Payn, 1569, entitled "The Regiment of Life, whereunto is added a Book of Children " In 1653 Pemel wrote " De morbis puerorum," and some time before 1639 Harris published ' De morbis acutis infantum " Sydenham, in a letter to Harris said "Without flattery, you are the first man I ever envied and it is my belief that your little book will be more useful to mankind than all I have written "

Very many books in this department of medical science have appeared in Europe since these times, and, as years passed, the rate of appearance constantly increased In recent years, from the classic "*Handbuch*," edited by Gerhardt, down to the valuable "*Traité*," edited by Grancher and his associates, and just completed, the large number of books on pediatrics of all sizes and range which have been issued bears ample testimony to the great interest in the subject taken by writers and readers abroad

The development of text-book literature on diseases of children in the United States is even more interesting to us This matter was so exhaustively reviewed by Adams that I shall touch it only briefly, and refer you to his valuable paper for fuller details The first pediatric monograph appears to have been by Charles Caldwell written in 1796, and entitled "An Attempt to Establish the Original Sameness of Three Phenomena of Fever (principally confined to infants and children) described by Medical Writers under the Several Names of Hydrocephalus Internus, Cynanche Trachealis and Diarrhea Infantum " The first book especially devoted to children was published in 1790 This was written by a layman (or rather a lay-woman) and was called ' The Maternal Physician " The first book on pediatrics by a physician was entitled "Practical [illegible] on Diseases of Children, etc ," and was written by George Logan in 1825 In the same year the celebrated Dr Wm P Dewees, so well known as one of the earlier eminent American physicians, published his work on children's diseases From this date onward the American books upon pediatrics have been rapidly multiplying Among them may be mentioned the works of Condie, Eberle, Meigs, Lewis Smith, Jacobi, Rotch and Holt, not forgetting the "Cyclopædia of the Diseases of Children," edited by Keating the only work of the sort in the English language, and one of which we can justly be proud

Pediatric Journals —With regard to medical journals devoted to diseases of children, the first of which I can learn was one denominated *Archiv für die Geburtshilfe, Frauenzimmer und-neugeborner Kinderkrankheiten* This was issued in 1787 The first journal devoted exclusively to diseases of children appears to have been *Analekten über Kinderkrankheiten*, which was commenced in 1834 Neither of these journals is longer current Since this time there have been numerous journals started, some of them still existing I count at present four in German, the oldest being the well known *Jahrbuch für Kinderheilkunde*, begun in 1857 The other three are, in order, the *Archiv f Kinderheilkunde*, the *Kinderarzt*, and the *Centralblatt f Kinderheilkunde* There are four in French, of which the oldest is the *Revue mensuelle des Maladies de l'Enfance*, started in 1883, and the others, in order, the *Journal de Clinique et de Therapeutique Infantile*, the *Annales de Médecine et Chirurgie Infantiles*, and the *Archives de Médecine des Enfants* There are one in Italian, *La Pediatria*, two in Spanish, the *Anales de Obstetricia, Ginecopatia y Pediatria*, and the *Archivos de Ginecologia y Pediatria*, and one in Russian, the *Dietskaya Meditsina* All but the two Spanish journals are devoted exclusively to diseases of children Curiously, of journals published in English, there is not one owned and edited in England

The United States is well represented in journals treating in part or entirely of the diseases of children The *American Journal of Obstetrics and Diseases of Women and Children* was first issued in 1868 From the beginning it included articles upon the diseases of children, and later it set aside special pages for this department The *Archives of Pediatrics* was established in 1884, the *Annals of Gynæcology and Pediatry* in 1890, and *Pediatrics* in 1895.

It it evident, then, that journals treating specially of diseases of children, slow to start, show at present no dearth Certainly this indicates the rapid strides which the interest in the subject has made nearly everywhere in the medical world

Children's Hospitals —Regarding hospitals for sick children, I find that the first of any sort appears to have been the Dispensary for Sick Children, founded in London by G Armstrong, in 1769 It became extinct on Dr Armstrong's death It was intended only for out-patients, as was the one founded by Mastalier in Vienna in 1787 In 1802 the Maison de l'Enfant Jesus in Paris was changed, on the suggestion of Tenon, from an orphan asylum into a hospital for children of from two to fifteen years of age This hospital, still in existence as the Hôpital des Enfants Malades, was the first institution designed solely for the care of sick children within its walls It was not until thirty-two years later, in 1834, that the second hospital was founded—the Nicolas Children's Hospital in St Petersburg The development since then of similar institutions in different localities advanced at first only slowly, then moved rapidly In 1852 the Great Ormond Street Hospital was founded in London At that time, writes Dr Charles West, there was no other hospital in England or America for diseases of children

What a wonderful change since these early beginnings! Hospitals for sick children are scattered all through England, London alone having quite a number, and the cities of Continental Europe are thoroughly well supplied

The first hospital to be started in the United States would appear to be the Nursery and Child's Hospital in New York, founded in 1854 and still in existence Yet this institution was at first a maternity as well, and the oldest hospital purely for children is undoubtedly the Children's Hospital in Philadelphia, which was established in 1855 Now a glance at the list of benevolent institutions in the United States fills one with astonishment at the number of general and special hospitals for children, the homes, asylums, sanitoria, etc , throughout the country, to say nothing of the children's wards connected with nearly all the general hospitals for adults

Pediatric Societies —Next let us consider the subject of medical societies for the study of diseases of children All advance in this line has been very recent, leaving still much to be desired Although England has numerous other special societies, such as a Balneological Society, a Medical Temperance Association, two Dermatological Societies, a Society of Anesthetists, etc , I have not yet been able to learn of a single organization devoted solely to pediatrics, out of 79 Provincial medical societies and 71 in London itself! The British Medical Association generally has a pediatric section, but not always, as for instance, at its meeting in 1897 There is not in Germany or Austria, as I am informed authoritatively by correspondents, a single independent society devoted to the study of diseases of children The same has been true of France until within a few months I have read very recently in the *Journal de Clinique et de Therapeutique Infantile*, that the hospital physicians of Paris are about to start a society of Infantile Medicine and Surgery In Russia there appear to be two, one in St Petersburg, started, as nearly as I can learn, in 1885, and one in Moscow, started, I believe, in 1892 Each publishes volumes of transactions Of pediatric societies in other European countries I can not speak authoritatively, but I have heard of none The Gesellschaft der Naturforscher und Aerzte has its pediatric section established in 1883 and meeting annually The International Medical Congress has likewise a pediatric section There was started in France in 1897 a Congress of Gynecology, Obstetrics and Pediatry, which is to meet annually In Berlin, Dr Baginski holds every two weeks, for the discussion of pediatric subjects, an informal gathering of men who have been his assistants

This paucity of societies for the study of children's diseases in Europe, is in contrast with the manifestation of interest in this direction which the United States has shown, particularly recently The American Medical Association established the Pediatric Section, whose session we are now attending, in 1880, with Dr A Jacobi as its first chairman The amount of work done is instanced by the overcrowded program before us for our present meeting There are, as you notice, sixty-two papers announced, and we were obliged to refuse quite a number of applications on account of lack of time to have the papers read When we consider that the ASSOCIATION is meeting this year over two thousand miles from the more densely populated Eastern States, the activity and interest in pediatric studies which the program shows is really astonishing

In 1860 an attempt was made by the New York Academy of Medicine to form a Section for Diseases of Children, but after a few meetings it was abandoned Years later, in 1887, the present Pediatric Section was started, with Dr J Lewis Smith as its first chairman This organization contains many of the leading writers on children's diseases in the country It has always been a very active one and has issued a large amount of valuable matter

The American Pediatric Society was established in 1888, with Dr A Jacobi as its first president It has from its origin been an exceedingly active organization Its volumes of Transactions contain a large amount of valuable scientific work and are appreciated at home and abroad

The Pan-American Medical Congress was founded in 1893, with a pediatric among its other sections, and Dr John M Keating as the first chairman of this section

This covers the national pediatric associations Recently there have been established some State societies The Ohio State Pediatric Society, meeting once a year, held its first meeting in May, 1895, with Dr S L McCurdy as its first president, and the Indiana State Pediatric Society, likewise meeting yearly, was organized in December, 1897, with Dr P J Barcus as its first president, and holds its first meeting this year I know of no other State societies up to the present time

Of independent city societies for the study of children's diseases, there is in St Louis the Bethesda Pediatric Society, which was organized in the autumn of 1895 with Dr E W Saunders as its first president Its membership is limited to fifteen, but invitations to outsiders are extended for each monthly meeting The interest is great and the meetings enthusiastic

The Philadelphia Pediatric Society was established December 1896, and holds its meetings monthly It has proved a success beyond all expectation, has a large membership and interesting and well attended meetings at which much work is done Its proceedings are published regularly in several medical journals I feel greatly honored in having been its first president and in having had the opportunity to review the work of the first year in an address published in the *Archives of Pediatrics* a short time ago It is possible, and even likely, that there are other city societies of which I have been unable to learn Certainly they are to be welcomed

Public Teaching of Diseases of Children —Finally let us consider the status of the public teaching of pediatrics in medical schools An interesting and valuable contribution has been published on this subject by S W Kelley, which approaches the matter from another point of view, and therefore duplicates little, if at all, what I shall have to say

Dr Jacobi is my authority for the statement that Rosenstein, who wrote a text-book on diseases of children in 1752, and his predecessor, Roberg, introduced clinical instruction in diseases of children in Stockholm This would appear to be the earliest instance of the official special teaching of the subject As far as I can learn there was no other public teaching in Europe until about 1850, when Giraldès gave instruction in surgical and Bouchut in medical affections of children in Paris, while at about the same time Mauthner was teaching pediatrics in Vienna, and Hauner in Munich About 1858 Ehlers began lecturing in Berlin The branch now receives attention in nearly all of both the large and the small universities, and is represented in many of them not by a clinical chair but by a recognized full professorship In this respect Europe is still decidedly ahead of us although we are rapidly gaining

In England, however, the teaching of pediatrics would seem for the most part to be far from satisfactory According to a recent editorial appearing in *Pediatrics*, taking St Thomas' and St Bartholomew's as examples of what prevails in most of the London hospital schools, there are no special lectures on pediatrics given at all In Manchester, under the teaching of Dr Ashby, conditions appear somewhat more advanced In Edinburgh a lectureship on this subject has been established only within very recent years

How is it regarding the public teaching of pediatrics in the United States? Although Gunning Bedford, about 1850, taught diseases of children in a mixed women's and children's clinic in the University Medical College of New York, the first special chair in this department was established in the New York Medical College in 1860 and given to our distinguished fellow-physician, Dr Jacobi Since that time what a change! Yet the change came but slowly Dr Jacobi, writing in the Cyclopedia of the Diseases of Children in 1888—only ten years ago—says "To my knowledge there is no school in the country which lays the least stress on that branch of instruction No examination being required by those to whom the student looks for direction and enlightenment, he neglects the study, to find out too late the mistake he has made in doing so"

Now, as I said, what a change! How the profession throughout the country is awakening to the demands of the times! No need to ask longer whether pediatrics is or should be a specialty See only what the colleges are doing, for the proof that its position is being fully recognized In order to illustrate this point I have examined and compared lists of regular medical colleges in the United States and, with the assistance of our secretary, Dr Rosenthal, have applied to all of them for recent announcements and reports From the great majority these have been received, but for the information regarding a few I have been obliged to depend upon the schools' advertised list of teachers I find the names of 130 colleges, from which must be excluded 13 of which nothing whatever could be learned (The post-graduate schools are not included in the analysis, although all of them have full chairs of diseases of children) A study of the 117 remaining schools is most interesting In 64 of them, i e, 54 7 per cent, there is a special chair for pediatrics In 43, i e, 36 75 per cent, the chair is combined with some other department—not by any means always as the minor subject and never buried in it without mention of the title In 3 colleges there is only a lectureship In only 7, i e, 5 98 per cent, is there no announced teaching of diseases of children, and I have knowledge that in some of these 7 special instruction in pediatrics is given In all but 7, then, out of 117, the published announcements recognize the importance of pediatrics and advertise the teaching of it

Further, of the 64 colleges in which the department has its own independent chair, in 49, i e, 76 55 per cent, the title is that of "Professor of Pediatrics" or "Professor of Diseases of Children" In only 15, i e, 23 43 per cent, the title is a minor one, usually "Clinical Professor," sometimes "Associate Professor," and in one instance "Professor of Clinical Pediatrics"

No positive conclusions can be drawn from these facts, but from them, with a study of the catalogues, certain very suggestive inferences are justifiable It was clear in most cases where the title of "Professor" is given that the teacher is a full member of the faculty, and his department admitted as equal to any other This shows well the recognition which pediatrics has gained throughout the country Even in cases where this inference could not be drawn, another was evident, viz, that the Professor is not limited to clinical work alone, but has, if he wishes it, the option of giving a systematic course in his department In fact, this is distinctly stated in many cases In the smaller number of colleges where such a title as "Clinical Professor" is employed I know that in some instances at least the teacher has this option I dwell upon this point because my belief is that pediatrics should be taught both clinically and didactically, and I think the figures I give prove that this is now the commonly accepted opinion throughout the country

As to the numbers of hours given to pediatrics I can make no positive generalizations As far as it could be determined the number of hours varies greatly in different schools, and is often much below what it should be

Some more accurate details may be of interest About two years ago, with a special purpose in view, I addressed a series of questions to the holders of chairs of diseases of children in a number of the leading medical schools of the United States, selecting chiefly those in which an independent chair existed, and a number of others in which the department was combined with some other, but where active teaching in pediatrics was going on The questions were personal to a certain extent, and I feel authorized therefore in giving only the results in general, without mentioning the names of the institutions

I have accurate statistics of 28 colleges, not gleaned from the catalogues, but from the direct answers of the teachers themselves In 17 of the 28 colleges the department of pediatrics is represented upon the governing medical body of the school This does not represent the actual percentage which holds good for all the schools of the country, for it happens that the 28 schools selected had an unusually large proportion of *clinical* chairs In 14 out of 24 colleges suitable for comparison the professor of pediatrics receives a salary This large proportion does not fairly represent the true importance which is attached to the chair by most schools, since in certainly 5, and probably in nearly all of the remaining 10, circumstances compelled all or nearly all of the other chairs to be unremunerated also Therefore, in almost every one of the 28 colleges studied, the teacher in the department of the diseases of children is considered of sufficient importance to receive remuneration for his work In all but 5 of the 28 colleges there are a number of other officers beside the professor who are actively engaged in teaching diseases of children In 23 of the colleges didactic as well as clinical instruction is given, in a large number of the 28 ward class instruction is also used, while in a considerable number recitations are likewise held In at least 19 of the 28 the chair does not depend on dispensary patients alone for clinical material, but has ward patients also

All these facts are proof—if proof were needed—of the high estimation the medical schools have of the importance of pediatric teaching Finally, in all but three of the twenty eight colleges, i e, in 89 per cent, there is a required final examination by the professor of pediatrics In most of them this ranks with all other examinations Here is the evidence that most medical schools are alive to the fact that pediatrics is important enough to *require* their students to study it How different from the condition of ten years ago, as Dr Jacobi shows in the words I have already quoted

We have hastily reviewed the rise of pediatrics as a special branch of medical science, and the astonishingly rapid progress which it has made in very recent years What now are its needs? The little I have to say here can be said briefly

First, there is the need that the recognition of the importance of special teaching in diseases of children to medical students shall become universal Almost all of the newer and more progressive schools do appreciate this I am sorry to say that in some of our oldest and best known institutions, where one should expect the most advancement, the branch receives even yet by no means the recognition which it deserves, and which the schools of Germany and France are giving it Conservatism is good in its place, but when pushed too far it becomes merely "old-fogyism" It may be safely prophesied that not many years will pass before the demands of the times, the demands of undergraduates—for these fully realize the value of pediatrics to them—will force even our most conservative colleges to discard for the new garments of modern progress that shabby, threadbare mantle of antiquity and precedent which they have so long and so closely wrapped about them

Then, in nearly all of our schools there is the need that much more time be allotted to the study of children's diseases and that more clinical material be provided for practical personal study by the students In no other way can the students be given that actual knowledge of children's ailments which they are sure to need very early in their career as physicians Finally, there is a need not to be overlooked—that no attempt shall be made actually to dissociate pediatrics from the main branches This is equally true of all specialties, both in their teaching and their practice The effort so to separate can do only harm and can not possibly succeed Special teaching is absolutely required It is impossible now-a-days for the professor of medicine or the professor of surgery to cover the ground in the time at his disposal But for all specialties there must be the foundation of the main branches of medical science, and all special branches must be studied in their bearing upon these In one sense pediatrics is wider than general medicine It is different from all other special branches in one important particular These latter instance the application of general medical knowledge to special organs of the body Pediatrics, however, is special knowledge of disease as it expresses itself in the general system of the child The general physician need know little of children's diseases The pediatrist must not only know adult medicine but special child medicine as well

What must be our aim, then, as physicians interested in this great branch of medical science? To so study it, practice it, write of it, teach it, work for it, that we may fit ourselves and others to aid in the best way the most helpless and defenceless, the most attractive, the most appealing of our patients—the children

In closing I must express my indebtedness for valuable information obtained from the article by Rauchfuss on "Die Kinderheilanstalten," and that by Hennig on "Die Geschichte der Kinderkrankheiten," both in Gerhart's *Handbuch der Kinderkrankheiten*, Vol 1, that by Jacobi in the Introduction to the Cyclopedia of the Diseases of Children, that by Adams, on the "Evolution of Pediatric Literature in the United States," in the *Archives of Pediatrics*, June, 1897, and that by Kelley on "Pediatrics, Past, Present and Future," in the *Cleveland Medical Gazette*, September, 1896 Meissner's "Grundlage der Literatur der Pädiatrik", an editorial in *Pediatrics*, Jan 15, 1897, the Index Catalogue of the Library of the Surgeon-General's Office, Polk's Medical and Surgical Register of the United States, the Medical Directory for England, and the Bibliographical Supplement of the Cyclopedia of Practical Medicine, by Forbes and his associates, have all been of service I am also much indebted for information furnished in personal letters from Dr Guinon of Paris, editor of the *Revue Mensuelle des Maladies de l'Enfance*, Dr Frühwald of Vienna, editor of the *Archives für Kinderheilkunde* Dr Baginski and Dr Heubner of Berlin, Dr Saunders of St Louis, Dr Lambert of Indianapolis, Dr Rotch of Boston, Dr Adams of Washington, Dr Booker of Baltimore and Drs Brown, Adriance and Carr of New York Last, and especially, I am indebted to Dr Jacobi of New York for many useful suggestions and much valuable information given, both in personal letters and in conversation

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THE LIMITATIONS OF MEDICINE

Address Delivered at the Opening Exercises of Rush Medical College September 27, 1898

BY FRANK BILLINGS, M D

CHICAGO, ILL

Medicine has for its object the relief of suffering and the prolongation of life There exist many limitations to the successful accomplishment of this object The limitations of medicine are less numerous today than in the past, and many of the obstacles to success in the prevention of disease and the healing of the sick will be removed in the future

Medicine as a whole is not a science Of some branches which enter into it our knowledge is exact of others our information is theoretic, while every day adds to our knowledge and removes many obstacles from the path of progress The chemic laboratory and the microscope have done much and will do more to make medicine a science Progress in knowledge of chemistry and biology has been wonderful in the last twenty years and this knowledge has removed many of the limitations of medicine Strange as it may seem, the limitations of medicine which man is striving to remove, are due to man himself

Man is the highest type of animal, endowed with a mind capable of reason, and gifted with a means of communication with his fellows, and yet man is the very source of his own undoing The original man was doubtless perfect in mind and body, the master of all created things Like all organic life, his span was made up of periods of birth, growth maturity and decay He was doubtless able to combat his foes and sink at last, in the fulness of his years, into euthanasiac sleep The history of man, since the fall, is like the repeated pages of a book Vicious habits mark his footsteps, whether civilized or barbarian, his habits of work and of rest, his food and drink, are not rational, he contaminates the air he breathes, the water he drinks and the food he eats The water-sources and the earth, contaminated by man, become soil for the growth of the germs which infest and sicken him His contaminated body begets a prototype, imperfect in mind and body From the cradle to the grave a degenerate being, he fights against a mighty host, bred of his own shortcomings Most of the infectious and contagious diseases may be classed as preventable, most of them are filth diseases, and they can not exist in the presence of perfect cleanliness

A proper observation of hygienic rules relating to cleanliness of the person, of food, and of the water-supply, renders a population free of typhoid, cholera and other filth diseases The example of the city of Vienna is sufficient to prove this Previous to 1878, Vienna received its water supply from the Danube river, which was contaminated by the sewage of the city While using this water supply, Vienna suffered from the constant presence of typhoid fever, and cholera was a frequent visitor The World's exposition of 1873, at Vienna, was practically broken up because of a visitation of cholera and typhoid fever In 1878 Vienna's new aqueduct was completed which brought pure water from the Semmering pass in the Carpathian Alps, a distance of seventy odd miles From that time until the present, typhoid fever and cholera do not exist in Vienna, except as importations There has been but one exception to this—which emphasizes the lesson of the value of pure water I think it was in the year 1888 a break occurred in the Semmering aqueduct The old water-supply was temporarily used until the aqueduct was repaired Typhoid fever again promptly appeared in the city, and continued until the pure water was again supplied

Ideal sanitation would free the world of all diseases due to filth What prevents ideal sanitation? Many things ignorance of the people, both rich and poor educated and unread an ignorance of what is real cleanliness of mind and body and of the drink and food they take Health officers and family physicians teach in vain the value of cleanliness, the best methods of removing the contaminations of food and water, and the necessity of precautions in the presence of contagious diseases Ignorance, prejudice and a love of dirt are often difficult to overcome Sanitation has done much to overcome the evils of self contamination of water, milk and other food Sanitarians have not only the ignorance and prejudice of the people to overcome, but also the avarice of commerce Air pollution by smoke and odors sewage increase and consequent increased pollution from the by-products of packing-houses manufactories, etc food adulteration to meet competition in trade, are conditions not easily overcome, because of the political influence the dollar commands, especially in our municipal governments It is the influence of politics which prevents the enforcement of the laws which exist for our protection Politics and greed are synonymous terms Sanitation and the prevention of disease and of death are disregarded if the enforcement of the law should interefere with the official life, pleasures and emoluments of the politician

Politics in this country not only limits the enforcement of sanitary measures, but politics has had a blighting influence upon the advancement of medical education We have no law governing the conduct of medical schools or fixing a uniform standard of requirements for graduation, before beginning the practice of medicine Each State has its own medical law, and no two have like laws But few place the standard of requirements high, and most of them have very minor requirements In many States a charter for a medical school may be obtained for a small fee by any body of men who may please to originate a diploma factory In this city alone are twenty or more medical schools In this, as well as in some other municipal matters, Chicago leads the world Other States and other cities boast of medical colleges galore The most of these are private institutions owned partly or wholly by the teaching faculty The expenses of the institution are paid from the fees derived from the students The result in most cases is what one would expect Students unfit to study medicine are admitted to the schools, while inadequate facilities for teaching prevent the proper and thorough education of the student He goes forth with a diploma, which is equivalent to a license to practice in most States, for in but a few States is an examination to obtain a license necessary Thus, the profession is crowded with physicians who are not prepared for the work they should do, the people suffer in consequence and scientific advancement is retarded thereby Again, once a license is obtained, the State authorities are in most instances powerless to annul it, even if the holder thereof viciously prostitute his practice In practice the law says all physicians are equal who hold a license to practice The one may strive by all honest means to conscientiously help suffering humanity, the other may be a fiend on earth Murder and lesser sins may thus be lawfully committed The criminal may write the death certificate which affords safe burial of the victim All medical practitioners are, however, injured and their influence for good is lessened by every evil-doer in medicine Comment is unnecessary The influence of politics has more to do than any other one factor in the retardation of medical progress and in limiting the possibilities of medicine

Science is gradually and surely overcoming this evil In some States excellent laws have been established, requiring schools to admit only students who are properly prepared to study medicine The curriculum must contain certain branches and the course of study must extend over four years State examinations are also required for a license to practice, to which the applicant for examination is eligible only upon the evidence that he has taken a college medical course extending over a period of four years All of the States will eventually be forced into the plan, not by law but by the people, who are slowly awakening to a better knowledge of things medical Our State, county and city medical institutions are usually misgoverned by politics, and the patient and scientific medicine suffer in consequence The use of anatomic material is so restricted by law in some States that medical education suffers It is only since 1885 —twelve years—that anatomic study has been untrammeled in Illinois It will surprise many of you to know that previous to 1874 the law of this State made no provision for the use of anatomic material, and at the same time made it a criminal offense to dissect or experiment surgically upon cadavers illegally obtained

Vivisection has been a means of research which has so enriched our knowledge of physiology, has so perfected operations in surgery and so broadened our knowledge of pathology that thousands of human lives have been saved Nevertheless, antivivisectionists have secured the adoption of laws in some countries, and in some States so restricted vivisection as to retard medical progress The charge of cruelty to animals without material addition to our knowledge is not borne out by fact No scientist worthy of the name is cruel No scientist desires or asks for unrestricted and general vivisection By authorized teachers and honest searchers after truth, no cruelty will be practiced The knowledge gained will, in the vast future, be the means of saving the lives and relieving the sufferings of many times more human beings than the number of animals sacrificed In the meantime the antivivisectionists will perform a real service and save much brute suffering if they will turn their attention and influence to the relief of the overworked, underfed beasts of burden which drag overloaded drays, tramcars, and carrettes about the streets, and the time they may spend in protection of our birds from the plume hunter will not be lost

Our knowledge of pathology has been enormously increased in the last few years The cause of disease is very much better understood There is now no longer a reason for the existence of the many theories of medicine of former years The scientific physician whose knowledge of anatomy, chemistry, general biology, pathology and clinical medicine is ripe, will therefore recognize the disease and its cause, if it is known In the attempt to relieve the individual he will use every endeavor to remove the cause or to neutralize it He will use anything and everything which his knowledge and judgment dictate for the relief of the patient Pathies do not exist for him A liberal and exact education in the foundation studies of medicine, teaches him to take a broad-minded view of all things pertaining to medicine The adoption of a theory with a pathy attached necessarily includes belief in and practice of a narrow dogma Recovery of the acutely ill, is frequent enough under all sorts of management to afford argument of a specific cure all The man who practices a pathy burrows in a ditch, his horizon of observation becomes narrower as he digs The existence of pathies is an obstruction to medical progress To day there is no reason for the existence of the word "pathy" The properly educated man can no longer ignore the existence of disease and treat the symptoms only He cannot affirm that only vegetable medicines should be used and that all metallic medicines are poisonous He can not affirm that water alone should be used and that it may always be applied without danger He knows that manipulations alone can not remove a disease He knows that electricity is not understood therapeutically, and ascribes much of its value to its moral effect He recognizes the fact that certain conditions of the mind and body are relieved by hypnosis and by hypnotic suggestion, whether it be induced by the incantations of the Indian medicine man, the Buddhist and the black man of Africa, by the laying on of hands of the mesmerist and faith healer, or by the prayer of the Christian scientist He may be willing to use any or all of these methods, in the proper and few instances in which they may be indicated I will not say that the average physician who possesses all the qualifications of a scientific man will try to induce a cure by the laying-on of hands or by prayer He would probably think that equally good or better effects would be produced by a good dose of calomel

In the United States but little scientific medical work is done under National or State expense and control The medical department of the regular army encourages the medical officers to make scientific investigations, and furnishes the necessary apparatus for such research A few medical officers of the army have distinguished themselves by excellent scientific medical work

The navy has not recognized its medical officers by proper rank, nor has it encouraged or even given opportunity for scientific medical investigation The marine-hospital service is composed of excellent medical men Upon this department has devolved most of the National sanitary work of the last few years Its powers and possibilities are, however, limited

A few States have universities with medical departments, and in some of them excellent biologic and chemic work is done at the expense of the State Most of the States have boards of health, some of them composed of excellent medical men, clothed with sufficient power to be of benefit to the people The boards of health of many other States are usually composed of medical men selected for political reasons With every change of the political party in power, the members of the board, whether good or bad, are also changed The boards of health of many of the States have done excellent sanitary work Many have done much also to rid the medical profession of unqualified men, and in a measure, to elevate the standard of medical education, by recognizing the diplomas of only those medical schools that fulfilled the requirements of the boards in reference to the medical curriculum and time of study The full usefulness, however, of the State boards of health, of the teachers in the State universities, and of the medical officers of the army, the navy, and of the marine-hospital service is prevented by political and commercial interests, or by environment inimical to scientific work The greater part of the real scientific work in medicine in this country is done by individuals working privately at their own expense, or by teachers in institutions supported by the contributions of private citizens Most of the good scientific medical workers are poor, and are obliged to earn a living by professional practice, a time consuming impediment to proper scientific investigation A mind full of anxiety, burdened with the responsibility of a life threatened by disease, is not as clear or as capable of unraveling the problems of medical science as that of the man whose whole time may be given to a special line of research

In many foreign countries the governments recognize the scientific workers by paying them living salaries and by providing apparatus and opportunity for special lines of investigation In this country the government maintains an agricultural department for the protection of the products of the farm, and an interstate commerce commission for the purpose of regulating and equalizing the interchange of the commodities of the States This is done for commercial reasons There is a commissioner of pensions—the agent of the government in the financial interests of the soldier There is reason and justice in the maintenance of these departments But there is just as much, if not more, reason, for the existence of a National Commission of Health—a commission with power to regulate the sanitary problems of the country and to adjust matters medical between the States as fully and definitely as the interstate commerce commission performs its duties

In law a human life is worth $5000 to the State Why should the National government and the State not establish laboratories, or support those already established by private institutions, for the purpose of discovering the means of saving human life? Commercially a human life is worth more than an ox or a horse, and yet the government is more watchful of the health of animals which go to the slaughter-house, or of the possible contamination of the farms by Canadian thistles, or by an invasion of grasshoppers, than of its citizens The probable explanation is that corn, wheat and animals have an immediate visible commercial value, while a human life is the principal which earns only a small visible annual interest

The limitations of medicine in the management of acute infections and contagious diseases has always been great The success in the prevention of these diseases has been greater than in the healing of those already sick The discovery of bacteria and the relation they bear to the infectious and contagious diseases has afforded a still better means of prophylaxis and made a more rational treatment possible We have looked upon these diseases as self-limited in duration—self limited to accord with the life cycle of the invading germ The materia medica does not furnish us a drug which will cut short the disease The drug strong enough to kill the invading germ is equally deadly to the host We modify the course of the disease only We attempt to carry the patient through the illness by hygienic measures, simple food, bathing to modify fever, and by measures to support the patient until the invading army shall disappear Specific medication is of no value except in the malarial diseases and in syphilis This limitation of medicine is pronounced But the microscope and chemistry have discovered a principle which has already worked wonders in the cure of some of the infectious diseases—a principle which appears to be applicable to many if not all of the diseases due to bacteria It seems that bacteria not only secrete a poison which is the agent producing the symptoms of the patient, but that, like man, the germs are the source of their own undoing, for they also secrete or excrete or manufacture a substance which deals death to themselves and may also neutralize the disease producing poison in the patient The chemist has been able to isolate the toxin and the antitoxin in a few diseases Furthermore, it has been found that an individual treated with the antitoxin, not only more certainly recovers from a particular infection, but that a well individual treated with the antitoxin may be protected for a longer or shorter time from bacterial invasion, or at least from the disease producing toxin The accidental discovery by Jenner of the relation of cowpox to smallpox, and the resulting protection against smallpox by bovine vaccination, the further discoveries of Pasteur, of the possibilities of immunization of animals by inoculation with the attenuated virus of a disease, and the final brilliant discovery of, and the possibility of the utilization of, the respective antitoxins in the cure of, and in the prevention of, some of the infectious diseases, establishes a principle which is so important as to eclipse almost any other event in medical history. The brilliant results obtained in that dreaded disease, diphtheria, alone, from the application of this principle, is enough to fix it as a truth and justify us in the hope that it may be successfully applied in the near future to many other infectious diseases. In that branch of medicine classed as surgery, bacteriology made possible a knowledge of true cleanliness which has enabled the surgeon to invade with impunity, every part of the human body. Hence the horizon of surgery is wide and its limitations now are few.

I have said that many of the present limitations of medicine will disappear in the future. By what means may we hope to remove the obstructions to medical success? We can help to modify, and perhaps in the future hope to see the disappearance of, the abuses of medicine due to politics. We should exert ourselves to influence the establishment of a non-political, National Commission of Health, with power to regulate the study and the practice of medicine by a uniform law in all the States, with power to command the civil officers of the States in the enforcement of sanitation in relation to the contamination of food and drink, in the dissemination of contagious disease, etc. We should try to influence the government, both National and State, to recognize the scientific workers in medicine and the allied sciences by offering inducements in the way of honors and money reward for the discovery of facts which are of use in prolonging life and palliating suffering. A student who enters the field of medicine should be so thoroughly prepared, should have the proper facilities for study, and should give such time to the study of the fundamental branches and of the principles of medicine that he may command every possible means of prolonging life and relieving suffering. So prepared, he will embrace no dogma and recognize no pathy. A physician, he will command the respect and love of the people, who will listen to and heed his advice and instruction. Every physician so educated will exert a wide influence in helping to remove the conditions of the people which tend to limit the usefulness of medicine.

In closing, let me say a few words of the possibilities and the needs of this school. If we add to the great influence which this school possesses because of the reputation gained by fifty years of progressive improvement in medical work, the advantage which must result from the affiliation with the great University of Chicago, we may hope for the ideal in medical education. The broad-minded policy of the University will be admirably executed by the splendid mind of the man who conceived the plan. Over the whole Northwest are schools academies and colleges that have shaped their courses of study to correspond with the curriculum of the University. Students will be piloted through the preparatory school the academy, the college and the University, their minds moulded, trained and disciplined with a forethought of the final life-work of the individual. So prepared, a student will begin the study of medicine. The foundation studies—chemistry, physiology, general biology, anatomy, pathology, pharmacology and materia medica—will either be completed or the principles thereof will be mastered in the first two years of medical study. Then must come the application of the knowledge possessed of the foundation branches to the study of disease in the living and the dead. In hospitals and dispensaries, in chemic and pathologic laboratories, must the student labor to recognize disease by the phenomena termed symptoms, physical signs, and by the changes which occur in the tissues, the blood, and the various secretions and excretions of the body in disease.

To accomplish ideal work in the last two or three years of a medical college course, it is necessary to have at hand a plentiful amount of material with which to work. Not only must the amount of material be sufficient, but it must be situated, in reference to facility of use, that all that is possible may be obtained from it. It is, therefore, necessary that proper buildings be had for both dispensary and hospital patients. The dispensary must be a clinical building, so arranged with rooms for clinical examination and for laboratory research, that all students may come in direct contact with the patient, and be enabled to make the examinations I have named above. A free bed hospital should also be accessible, to furnish examples of the acute and severer forms of disease, with laboratories and apparatus for thorough examination of everything of which analysis is necessary, in the recognition of disease and in the study of the action of remedies used in the attempt to heal. Facilities should be afforded, in an annex or building closely adjacent to the hospital, for the study of morbid anatomy. Here, under the proper direction of a pathologist, the student should be enabled to carry on the more practical study of pathology, the principles of which he learned in his first two years of medical college work. Here he should be able to trace the relation of the morbid changes to the symptoms, to the physical signs and to the alteration of the secretions and excretions of the body, which he was able to observe in the wards of the hospital. By this means he will be able, not only to understand the principles of the various subjects of medicine, when separately considered, but also their intimate relationship to each other. It is not too much to hope that this institution shall in the near future have a clinical building with all of the modern conveniences which architecture can furnish, including laboratories, with every means which shall afford the surest recognition of disease, and thus give greater comfort and surer means of relief to the sick. It is absolutely necessary that this school shall have a free private hospital governed entirely by its faculty, with all of the laboratories for the recognition of disease, and the examination of the morbid changes which occur in the human body. With a clinical building, and with a hospital such as I have attempted to describe so briefly, this school, possessing as it does, the present means of obtaining students thoroughly fitted for the study of medicine, and with almost perfect facilities for the study of the fundamental branches of medicine, will soon attain an ideal medical course. With such an institution in the West, medical education will be so stimulated that other institutions, even though they have lesser facilities, will attempt to keep in line.

The medical man of the future will thus be, not only better prepared to meet, but will also be better equipped to further lessen the limitations of medicine

100 State Street

ORIGINAL ARTICLES

THE ESTIMATION OF URIC ACID IN URINE

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY HENRY C C MAISCH, PH D

PHILADELPHIA PA

While connected with the Stetson Laboratory of Hygiene, my attention was called to the fact that it was desirable to make a study of the conditions under which there was an increased, and other cases in which there was a decreased, elimination of uric acid Intimately associated with this would be a physiologic study of tissues and probably also cell metabolism, in other words, determining the place occupied by uric acid in the chemistry of the animal body The purely physiologic study being out of my line, I determined, on the recommendation of two of my former colleagues, Dr Judson Daland and Dr Frank Massey, to take up the purely chemic side of the question

The first step in the investigation would be to determine on a method for the estimation of uric acid which would be comparatively simple in its application and which would in the different operations be accompanied with the fewest sources of error In looking over the literature on the subject we found many contradictory statements as to the accuracy of one and the same method It is possible that a method under certain conditions will give accurate or fairly accurate results, while in other cases the same process will give results which vary considerably from the truth It is not absolutely necessary for our purpose to study the cause of variation, but an examination of the methods under various conditions would be sufficient and from the data thus obtained determine on a method which would be used in the principal investigation

It would seem fairly simple to determine on an accurate method by taking the simplest case possible and trying the different processes on this one I refer here to making a standard solution of uric acid of known purity and applying the different tests But from the very start we have to contend with the ready decomposition of uric acid while in solution It is a well known fact that uric acid in an alkaline liquid is more or less rapidly decomposed into a number of distinct compounds which form at the end carbon dioxid, ammonia and oxalic acid This decomposition is due to oxidation and hydration on the addition of oxygen and hydrogen in the form of water, H_2O, to the molecule of uric acid, $C_5H_4N_4O_3$ A similar change takes place also in urine when exposed to the air without sterilization or preservation in some manner or other It is necessary, therefore, that a urine should be examined for uric acid as soon as possible after voidance

The results obtained in estimating the amount of uric acid in a simple solution of uric acid can not be taken as applying with like force to the estimation in urine as I will show later on The difference is due very likely in the organic and inorganic compounds found in the urine, which among other properties show a peculiar solvent action toward the urates, this peculiar behavior residing principally in the phosphates and the urea

In estimating uric acid in a sample of urine it is decidedly preferable to use that passed in twenty-four hours, as this alone will give a criterion as to quantity and assist very materially in computing the results obtained It is possible that when the urine usually passed is rather concentrated under the influence of alcoholic beverages, the quantity of water excreted is materially increased, the urine becomes diluted, and if a sample of this latter urine is used the proportion of uric acid is diminished

For the work in hand it was necessary to apply the tests to the same urine throughout, but it being impossible to obtain the necessary quantity from one person at one time, it was thought best to collect a lot of urine from different persons and then make the estimations on the collective urine I therefore sent a large vessel to one of the departments of the J B Stetson hat factory, and had it filled without paying any attention as to whether persons using the same were in health or under treatment for any disease The quantity obtained amounted to about four gallons, and was furnished by eighty persons

The urine showed the specific gravity of 1 021, and contained neither sugar nor albumin Before taking the quantity for each estimation the urine was thoroughly mixed each time In reporting on the different methods I will begin with the one first recommended, and which to all appearances would be the simplest, taking into consideration the slight solubility of the uric acid From this I will continue through the other methods applied, becoming gradually more difficult in application, and ending with the process which I have adopted as being the one which unites accuracy and ready applicability

The first method we would have to consider is that of Heintz, in which the uric acid is set free by means of hydrochloric or other acid, and after standing for at least forty eight hours, collecting the precipitated uric acid and weighing When applying the rules as they pertain to ordinary solutions it would be expected that only a small quantity of hydrochloric acid would be necessary to complete the precipitation It has, however, been shown that a solution of urea has a solvent action on uric acid, probably forming therewith a chemic compound which, however, is not soluble in a highly acid medium It is, therefore, usual to add 20 c c of strong hydrochloric acid to 100 c c urine, which is a considerable excess, but even with this excess a complete precipitation does not take place, uric acid being soluble in water in the proportion of 1 to 16000 According to this the correction would only be slight, and it is given as 0 0038 gm for each 100 c c of liquid in use *Salkowski found* that after treating 200 c c of urine as above, he could still isolate from the filtrate thus obtained from 0 014 to 0 07 gm of uric acid by supersaturating with ammonia and precipitating with ammoniac silver nitrate solution I applied this test with hydrochloric acid and also with acetic acid, and found

With HCl 1, 0353 2, 0349 3 0369—mean 0 0357 per cent.
With $C_2H_4O_2$, 1, 0338 2 0375, 3 0407—mean 0 0373 per cent.

What surprised me somewhat was that I obtained with the acetic acid macroscopic crystals of uric acid which at first were perfectly transparent and of a reddish color, but on drying became opaque

The second method is that of Guerin and Thorion, who propose to precipitate the uric acid as the magnesium ammonium urate—to which they ascribe the formula $(C_5H_2N_4O_3H)_{10}(NH_4)_8 Mg+45H_2O$—by means of the magnesia mixture as used in phosphoric acid estimations It would be impossible to simply filter off the precipitate and regard it as this compound, on account of the magnesium ammonium phosphate also formed They therefore incinerate the precipitate, *forming magnesium pyrophosphate and magnesium* oxid, and estimate the amount of the latter produced The magnesium oxid is formed from the uric acid compound, as the only incombustible portion present is the magnesium

In applying this test 100 c c urine were used, and after incinerating the precipitate, the amount of magnesium was estimated volumetrically The residue was taken up with 25 c c decinormal sulphuric acid, and when titrating with decinormal sodium hydrate it was found that it required 22 c c to bring the liquid to neutrality, leaving 3 c c saturated by the magnesium

3 c c , n/10 H_2SO_4=0 014673 gm H_2SO_4=0 003645 gm Mg

According to the formula we have 10 molecules of uric acid (167 8) to one atom of magnesium (24 3), and consequently we have the proportion

24 3 003 645 x (24684 gm uric acid)

In a second determination the result was even more unsatisfactory The quantity of decinormal sulphuric acid saturated by the magnesium amounted to 4 2 c c , consequently giving even a higher result

Third Uric acic forms an insoluble barium salt, and it is on this property that Geelmuyam bases his method He adds sodium hydrate to the urine in such a quantity that litmus paper remains blue when dry and then precipitates with barium chlorid Besides the barium urate he also has formed here the barium sulphate, and to separate the two he boils the washed precipitate with dilute hydrochlorid acid, filters off the barium sulphate while hot, and evaporates the filtrate to a smaller bulk On standing, the uric acid separates, is collected on a filter, washed, dried and weighed The results obtained with this method are

1, 0 0425 , 2, 0 0439 , 3, 0 0393—*mean* 0 0419 per cent

With this urine the results were fairly satisfactory, but on applying it in another series the amount of crystals obtained was so small that they were not weighed

Fourth On boiling urine which does not contain any sugar with Fehling's test, we find a decolorization and a precipitation of flocculent masses—cuprous urate—part of the uric acid reducing the copper to the cuprous oxid, which then combines with the uric acid present, forming the cuprous urate Arthaud and Butte add the copper in the form of cuprous hyposulphite to the urine and precipitate the cuprous waste direct without losing any of the uric acid through oxidation They have arranged it as a volumetric method, using the following solutions

1 Copper sulphate, 14 84 gm , tartaric acid, trace (I use, following Ducong, five drops of sulphuric acid), distilled water sufficient to make 1000 c c

2 Sodium hyposulphite, 80 gm , rochelle salt, 160 gm , carbolic acid, 5 drops , distilled water sufficient to make 1000 c c

For estimating, 2 parts of 1 are mixed with 8 parts of 2, giving a solution of which 10 c c precipitate 2 cgm uric acid

The manner of applying this test is as follows 100 c c urine are made alkaline with sodium carbonate, warmed to precipitate the phosphates and then filtered A portion equivalent to 50 c c urine is treated with the above solution, drop by drop, until no more precipitation occurs As it is very difficult to notice when sufficient of the cuprous solution has been added, the authors propose a few methods of determining the end reaction The first and simplest, but not very satisfactory, method is to filter off a small quantity and add a few drops to it from the burette, when, if no precipitation occurs, the titration is complete The second method depends on oxidizing a possible excess of the copper to the cupric state and noticing the color produced with ammonia, they propose to take some of the above filtrate, add ammonia to it and shake in a test tube, permitting the oxidation to be done by the oxygen of the enclosed air The third and preferable indicator is a 10 per cent solution of sodium or potassium xanthogenate By adding a drop of the filtrate to this solution an excess of copper shows itself by the production of a yellow color

The first series in which this method was applied gave the following results, determining the end reaction by the precipitation method

1 Required 20 c c for 50 c c , equivalent to 0 04 gm in 50 , 080 gm in 100 c c

2 Required 21 c c for 50 c c , equivalent to 0 042 gm in 59 , 082 gm in 100 c c

3 Required 16 5 c c for 50 c c , equivalent to 0 033 gm in 50 , 066 gm in 100 c c

In this last the ammonia method was tried, but did not prove to be satisfactory Having some of the liquid remaining it was thought best to try the other indicator, potassium xanthogenate With this, results were obtained more closely conforming to those obtained with other methods

1 Required 12 84 c c for 50 c c , equivalent to 0 02568 gm in 50 c c , 0 05136 gm in 100 c c

2 Required 13 2 c c for 50 c c , equivalent to 0 0264 gm in 50 c c , 0 0528 gm in 100 c c

3 Required 10 8 c c for 50 c c , equivalent to 0 0216 gm in 50 c c , 0 0432 gm in 100 c c

With sufficient practice this method may be made to do the work admirably, but the objection to this, like all processes requiring volumetric solutions, is the extreme care and exactness necessary in its use

Fifth Uric acid, like many organic compounds, will take up a certain amount of iodin, or in other words, reduce a certain quantity of iodin solution I Kreidl endeavors to make use of this property of uric acid in estimating its quantity He draws attention to one peculiarity in this respect, viz the variation of the power of reduction according to the length of time the uric acid and the iodin solutions were in contact If standing only a short time the amount of iodin consumed appears to be greater than it does at the end of three quarters of an hour, at which time 2 3 atoms of iodin correspond to one molecule of uric acid The application *of this process is as follows* A moderate excess of normal potassium hydrate solution is added to the urine and followed by a considerable excess of thirtieth-normal iodin solution After standing *three-quarters of an hour the liquid is acidi*fied with hydrochloric acid, some starch solution added, and the excess of iodin titrated with thirtieth-normal sodium thiosulphate (hyposulphite)

The *results obtained by this method, paying strict* attention as to time for standing, were as follows

1 Consumed 39 5 c c iodin solution, corresponding to 0727 gm in 100 c c

2 Consumed 39 c c iodin solution, corresponding to 0717 gm in 100 c c

3 Consumed 38 5 c c iodin solution, corresponding to 0673 gm in 100 c c

Comparing the results thus obtained showed them to be higher than by the other methods The titration being made in the order here given showed that the time allowed is too short for the proportion as stated by Kreidl It is possible also that exposure to light has a reducing effect on the iodin solution, which disappeared Iodin would consequently be estimated as being caused by uric acid On the whole, the method is unsatisfactory, principally on account of the instability of the solutions used for titrating

Sixth The inaccuracy of the Heintz method was first shown by Salkowski by precipitating the balance of the uric acid with ammoniacal silver nitrate solution On this he based this first method, estimating the uric acid with hydrochlorid acid and the silver solution Ludwig simplified this by simply using the latter, and following him, Salkowski proposed a similar but more round-about process The Ludwig or as it is called, Salkowski-Ludwig, method is possibly the one most applied, and is here used The solutions required are

Ammoniacal silver solution —26 gm silver nitrate are dissolved in sufficient water, then ammonia water added to dissolve the precipitate first formed, and lastly the whole diluted to 1000 c c with water

Magnesia mixture —100 gm magnesium chlorid crystals are dissolved in the necessary amount of water, ammonia added in excess, and lastly sufficient ammonium chlorid to dissolve the precipitate The solution is then diluted with water to make 1000 c c

Solution of an alkaline hydrogen sulphid —15 gm potassium hydrate or 10 gm sodium hydrate are dissolved in sufficient water to make 1000 c c One-half of this solution is saturated with hydrogen sulphid and the two again mixed

The estimation is made in the following manner· For every 100 c c urine taken mix 10 c c each of the ammoniacal silver solution and the magnesia mixture and sufficient ammonia to dissolve the precipitated silver chlorid This solution is then added to the urine and the whole thoroughly shaken After standing about one hour the precipitate is collected on a filter, and washed two or three times with water to which a few drops of ammonia have been added During this time we have taken 10 c c of the third solution, mixed it with an equal volume of water, and heated to boiling This hot solution is then poured on the filter, which has been placed in a beaker, 40 c c hot water added, and the whole then heated to boiling The mixture is stirred repeatedly while cooling and filtered into a porcelain dish, the filter being washed two or three times with water After slightly acidifying with hydrochloric acid the filtrate is evaporated to 10 or 15 c c and allowed to cool The uric acid as thus obtained usually contains some sulphur, which must be removed After collecting the precipitate on a filter it is washed with water, alcohol, ether, carbon disulphid, and this then removed with ether, the filter dried and then weighed

In the experiments I used 200 c c urine for each trial and obtained these results

1 0793 in 200 c c. , 03965 in 100 c c
2 0936 in 200 c c , 0468 in 100 c c
3 0958 in 200 c.c. , 0479 in 100 c.c

The cause of the first result of the series being so low was that a portion of the liquid was lost

Seventh As shown above, working by Salkowski-Ludwig, the uric acid is estimated, but there is a possibility of the same reaction being made use of in another manner and arriving at a result which conforms fairly well with the above Haykraft's method depends on a consideration like this, and is based on the supposition that the precipitate, as obtained by the above method, is of constant composition, containing one atom of silver for every molecule of uric acid It must be possible to estimate the amount of uric acid present by determining the amount of silver in the precipitate Haykraft proposes to do this as follows The precipitate, as obtained by the Salkowski-Ludwig method, in the urine is allowed to settle and the clear liquid is run through a glass wool filter Before pouring on the precipitate the surface of the filter is covered with lumps of sodium bicarbonate and on top of this the balance of the liquid, with the precipitate, is poured The vessel in which the precipitation was carried on, and also the filter, are washed with ammoniacal water until the filtrate gives no precipitate either with silver nitrate and nitric acid, nor with hydrochloric acid The residue on the filter is then dissolved in concentrated nitric acid and titrated with a solution of ammonium sulphocyanate, using a solution of ferric alum as an indicator The solution of the sulphocyanate is of such a strength that 1 c c is equivalent to 1 c c 1/50 normal silver nitrate solution and represents then 3 36 mg uric acid

The results obtained by this method did not prove so satisfactory, being considerably higher than those obtained by the other

1 1213 gm in 200 c c , 0606 gm in 100 c c
2 1391 gm in 200 c c , 0695 gm in 100 c c
3 1509 gm in 200 c c , 0754 gm in 100 c c

An objection to this method which, however, is good in theory, is that there is a certain amount of reduction of some silver compound other than that of uric acid This silver compound is not washed out with the ammoniacal water, but will go into solution with the nitric acid, and consequently increase the amount of silver reckoned as combined with the uric acid Furthermore, a filter pump is a necessity in carrying out this process, otherwise a much larger quantity of a black compound will be formed

Eighth Some years ago Fokker made use of the slight solubility of the ammonium urate for estimating the amount of the uric acid The want of accuracy induced Salkowski to alter the process to a certain extent This altered process is as follows 200 c c urine is made alkaline with 20 c c solution of sodium carbonate and after one hour 20 c c saturated solution of ammonium chlorid is added to it This mixture is allowed to stand for forty-eight hours, then the precipitate collected on a filter and washed two or three times The precipitate is then repeatedly treated while in the funnel with dilute hydrochloric acid until all the ammonium urate is decomposed The filtrate is then set aside for six hours and the uric acid which has separated transferred to the remainder of the acid on the filter, which is then washed first with 30 c c of water and lastly with alcohol until the acid reaction has disappeared The acid can now be weighed, but a correction of 0 03 gms must be added to obtain a definite result

The objection to this process is that the ammonium urate is not entirely insoluble in the urine, varying amounts remaining in solution Another objection is the time it takes to finish one estimation, taking in hispidus contains only about two-thirds as much The amount of contained strophanthin is partly dependent upon climatic conditions It is a well-known fact that the physiologic activity of digitalis leaves varies within wide limits from year to year

Strophanthin, having the formula $C_{21}H_{48}O_{10}$ (Arnaud), is believed to be the only active constituent of strophanthus hispidus and strophanthus Kombé Some investigators, however, claim that strophanthidin also is found Fraser and others oppose this view, believing that strophanthidin is merely a decomposition product of strophanthin Strophanthin, like other glucosides, is easily decomposed by acids It is readily soluble in water and alcohol, but almost insoluble in ether and chloroform Pure or impure strophanthin, or pharmaceutic preparations containing the glucoside, when brought in contact with sulphuric acid, a trace of ferric chlorid being present, yield a bright green color This reaction is not conclusive, however, since ouabain can not be recognized in the presence of strophanthin Holmes who has given this point much attention, claims that only by purchasing the seeds in the follicle and testing a seed from each follicle, can a reliable preparation of strophanthus be made An assay based on the amount of extractive contained in a given tincture of strophanthus, or other preparations of the heart tonic is of little value to the physician, since the extractives consist largely of chlorophyll and other inert substances

After a careful consideration of the difficulties preventing a chemic assay of the heart tonics, and of the great importance to the medical profession of some means of standardizing them, I decided to experiment on living animals, believing that data might be obtained whereby the physiologic activity of the crude drug, its pharmaceutic preparations and active constituents might be ascertained Since it could not be taken for granted that every sample of strophanthus seeds or digitalis found on the market was active, it eemed best to adopt methods for determining first of all, whether the specific action of the heart tonics was manifested by the sample of drug, and second, to find methods for standardizing them

QUALITATIVE REACTIONS

Very extensive pharmacologic researches have shown that the several heart tonics act in much the same manner, differing mainly in degree, upon the factors concerned in the maintenance of the circulation of the blood The most important phenomena observed are slowing and strengthening of the heart-beats and increased blood-pressure I believe only two series of experiments are necessary in order to show whether a given sample of drug possesses the specific action desired, viz, the application of a solution of the crude drug or active constituent to the laid-bare frog's heart, noting the slowed rhythm, the less and less perfect diastole, increased systole and finally, systolic standstill of the ventricle, and the intravenous injection of such solutions into dogs or rabbits, observing the variations in blood-pressure and heart beats, as shown by graphic tracings recorded on the kymograph Other reactions might be obtained in addition, but are not necessary The physiologic activity of each sample of drug examined should be compared with a standard sample of known strength

QUANTITATIVE ASSAY

A quantitative estimation by pharmacologic methods of the activity of the heart tonics is a much more difficult problem than is a qualitative assay Many series of experiments were necessary in order to decide what method or methods were best suited for this work Too great variation was exhibited in the results obtained from blood-pressure experiments on dogs, rabbits, etc, and such experiments are, moreover, quite complicated and difficult to carry out I found that fairly accurate data could be obtained from the application of a solution containing strophanthin, digitalin, etc, to the laid-bare frog's heart, comparing the action of the drug thus tested with that of a sample of known strength This method, however, was finally abandoned for a simpler one, which gives much better results It seemed to me quite probable that the strength of the heart tonics could be determined from their killing power when administered to the lower animals Accordingly, rabbits, guinea pigs, rats, frogs, etc, were employed for determining the minimum fatal dose of the drug I finally chose frogs as being best adapted for this purpose Different species of frogs vary considerably in reaction to the poisons, but the same species behave much alike I have found it best to employ frogs of a nearly uniform size for the standardization of any particular tonic Since it is impossible to obtain on the market frogs of exactly the same size, it is best when one has a large number of samples to standardize, to have the frogs separated into lots by weight, those in each lot not varying over three grams, then we can use those weighing 10 to 13 grams for strophanthin, those weighing 14 to 17 grams for tincture strophanthus, those of 18 to 21 grams for tincture digitalis, etc Frogs weighing less than 30 grams can be obtained at a very reasonable price from fishermen, as they are too small for the table However, it is necessary that from the moment of capture they be handled with great care and kept in wet moss, etc, until they arrive at the laboratory, when they should be at once transferred to suitable ponds

The method of administering the poisons and observing results may be briefly stated as follows Dissolve the strophanthin, or tincture of strophanthus, in normal saline solution The strength of the medicated solution should be such that the total quantity to be injected shall not exceed 5 c c The fluid should be measured by means of very slender pipettes, graduated into hundredths, into round-bottomed capsules of about 1 c c capacity, from which the last drop may be taken up in a narrow pipette having a long slender point, and the injection then made through the frog's mouth into the abdominal lymph-sac Great care should be taken not to puncture the skin, as this will allow a portion of the injected fluid to leak out After injection the frogs should be placed in wide-mouthed frog glasses, the plates containing about a quarter of an inch of water It will be necessary to inject several series of about five frogs each for each sample of the drug to be assayed, a first series to be injected with drug of known standard strength After testing a large number of tinctures of strophanthus I found that *0 00015 c c per gram body-weight, represented* fairly well the toxic activities of an average sample of tincture prepared from strophanthus (Kombe)

The minimum fatal dose of tinctures strophanthus prepared from various lots of drug obtained from the American market was found to be as follows

1	00015	4	00012
2	00026	5	00013
3	00015	6	00015

7	00010	11	00016
8	00015	12	00015
9	00022	13	00025
10	00017	14	00033

The several tinctures were prepared by one process and with the same menstruum

The second series are to be injected with doses varying considerably in size The third series are to be injected after the approximate dosē of poison has been found from the second series From the third series we may almost surely fix the minimum dose A fourth series should finally be injected, which will fix the limits of strength very closely The minimum fatal dose should kill at least three frogs out of five If a less number die it is best to inject another series with doses one point greater

One very important advantage of the method above outlined for the assay of the heart tonics, is the fact that various kinds and sizes of frogs may be employed at any season of the year, the only essential being that at the time the assay is made the standard and unstandardized preparations should be tested at the same time, the frogs being of exactly the same species and kept under exactly the same conditions, comparative results only being necessary, since the standard solution maintains its activity almost entirely unimpaired, as shown by tables III A and III B

A standard tincture of strophanthus retains its strength very well, as is shown by the following tests, made on the first standard tincture I employed

TABLE III A.

	Minimum fatal dose
July 6, 1897	00015
Oct 19 1897	00015+
Dec 23, 1897	00015
Feb 23, 1898	00015—
April 25, 1898	00015

The loss in strength was so little in nearly one year that it came within the limits of error Similar results are observed in regard to the permanence of a concentrated tincture of strophanthus

TABLE III B

	Minimum fatal dose
July 28, 1897	0000037
Nov 10, 1897	0000037

The ease with which we may always keep on hand a standard preparation of the heart tonics greatly facilitates the carrying out of the test and the accuracy of the results as compared with those obtainable with diphtheria toxin or antitoxin, both of which latter lose their active properties in a comparatively short time

TABLE IV

		Minimum fatal dose
Strophanthin	No 1	000009
"	No 2	000001
"	No 3	000001
"	No 4	00000062
"	No 5	0000001
"	No 6	0000001

The foregoing table shows the variation in the strength of different samples of strophanthin which were obtained from three of the best manufacturing chemists in the world They were supposed to be pure strophanthin, yet one sample is ninety times as strong as another, the others varying between these limits The digitalins also vary greatly in strength, but much less than strophanthin Both strophanthin and digitalin are given daily in tablet or pill form, the amount of active ingredients being apportioned by weight A splendid opportunity for a sudden termination of a favorably progressing heart disease, should the patient be obliged to have his prescription refilled from a fresh bottle The only way that such remedies can be taken with any degree of safety is to have them prepared from stock of known physiologic strength I will not dwell upon this subject longer at present, but desire to say in conclusion that the method of assay herein described is put forth in the hope that others will experiment along this line I do not claim it is the best method of pharmacologic assay that may be devised for this group of therapeutic agents, since I have not yet satisfied myself that it is applicable to every one of the members of the group, but I do claim that some method of assay should be employed

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THE GREAT THERAPEUTIC IMPORTANCE OF A RATIONAL ADAPTATION OF CATHARTICS TO THE PHYSIOLOGIC FUNCTIONS OF THE GASTRO-INTESTINAL SYSTEM

Presented to the Section on Materia Medica Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10, 1898

BY E D McDANIEL, M D

MOBILE ALA

The skin or external integument may at first thought seem to constitute a much greater surface than the more hidden part known as the internal integument, but the latter really represents much the greater area This is due to the smaller number, size and depth of the openings and duplicatures existing on the skin for absorbent, secretory and excretory purposes, while the internal integument possesses much more numerous and larger duplicatures, with more numerous, larger and longer glandular and absorbent structures The part of the internal integument that pertains to, the respiratory system being excepted, the remainder, reaching from the margin of the lips to the verge of the anus, constitutes, with its appertaining or collatitious viscera, what is designated in this paper "the gastro-intestinal system"

By function is to be understood a work or process accomplished in a living part by the operation of chemical, mechanical and vital laws We shall therefore regard function as synonymous with process Our allotted time would not suffice for a consideration of all the processes or functions that may take place in the long course and many parts of the gastro intestinal system Many such processes may be yet undiscovered and none of them, in the present state of physiology, may be fully understood Our task will be more feasible, more simple and more useful if we restrict our consideration to six leading processes whose existence may be assumed to be admitted These processes are the digestive, the secretory, the absorbent, the excretory, the peristaltic and the disinfective It will doubtless be further granted that these processes, when existing in true relationship, regularity and harmony, contribute a large and essential contingent to human health that whenever their correlation is disturbed or destroyed there follows a corresponding amount of disease that this disease with its cause or causes demands remedy, and that a proper application of the needed remedy constitutes the proper therapeutics Moreover, it seems obvious that whatsoever process or processes—whether digestive, secretory, absorbent, excretory, peristaltic or disinfective—be primarily or paramountly disordered in any actual case, the same must indicate the special remedy or combination of remedies needed in that case

As analogy easily places all classes of remedies under this general rule, and requires of physicians the use of a like wholesome discrimination in the employment of all remedies, our thesis, abstractly viewed may be regarded as established, and the query may be raised Why is it proposed to apply to the class of cathartics alone a rule applicable to all classes of remedies? Or why is not the rational adaptation of other classes of remedies as much to be enjoined as that of cathartics? The answer is clear and easy The fact that the rule applies to all classes of remedies does not remove all cause for specially emphasizing it in regard to cathartics, but really furnishes strong reason for its rigorous enforcement in the use of remedies so continually resorted to, so speedy, and so satisfactory in action and so nearly unapproachable in most essential, extensive and beneficial results

The contents of the gastro-intestinal canal are related to the body as the soil is to the plant, and as the life, growth, and vigor of the plant depend essentially upon the nature and condition of the soil, so do the life and health of human beings depend upon the character and management of the contents of the alimentary canal And as the cultivation of the soil is tantamount to the cultivation of the plant, so the wise management of the contents of the gastro intestinal system is a leading instrumentality in the conservation of human health, and while, in this work, the worth of a proper diet, control of the appetite, occasional fasting, massage, etc, are recognized helps, yet in all urgent or grave conditions, the main dependence must be upon the more thorough work of cathartics or purgatives, which are here used as synonymous with each other, and may be defined as that class of remedies therapeutically used to cleanse the gastro intestinal system by increasing the frequency, copiousness and fluidity of the alvine discharges and otherwise modifying the quality of these discharges In whatever mode administered, whether orally, hypodermically, epidermically, by enema or by suppository, they serve directly or remotely, primarily or secondarily, to unload the bowels, to deplete the general system, to promote absorption, to produce revulsion, to eliminate morbific matters from the blood and tissues, to modify favorably local action by stimulation, sedation or alteration With so wonderful a range and power of action, it is no wonder that cathartics are indispensable in virtually all diseased conditions as

1 Fevers—intermittent, remittent, continued, eruptive, ephemeral, or traumatic
2 Inflammation—acute, chronic, cerebral, thoracic, abdominal, pelvic, or neuritic,
3 Constipation—acute or chronic, colic of the various kinds, dyspepsia
4 Dysentery and diarrhea
5 Hemorrhages—active and passive epistaxis, hematemesis, hemorrhoidal menorrhagia, metrorrhagia, hematuria
6 Neurotic disorders—hysteria, chorea, epilepsy, tetany, neuralgia, lumbago and sciatica
7 Dropsies—active and passive, acute and chronic
8 Intestinal worms, all varieties
9 Intestinal obstruction—impacted rectum, impacted colon
10 All diatheses, cachexiæ, and dyscrasiæ, and the hosts of skin diseases

Thus the cleansing action of cathartics, beginning primarily and conspicuously in the gastro-intestinal system, proceeds steadily and surely advancing step by step and from part to part, until it pervades the entire body, penetrating even the external integument and showing itself indispensable in the treatment of all cutaneous diseases It must, therefore, be clear that without the great gastro-intestinal system, *on and through which to act*, and the great class of cathartics *with which to act*, the medicine of the past could not have made its great history, the medicine of the present would not possess its mighty power, and the medicine of the future could never accomplish its meditated glorious projects

May not the great body of representative physicians congregated here today, within one hundred miles of a peak from whose sublime summit one can look down in rapture upon a panorama of forty thousand square miles, in full view, around and below, be pardoned if, centering their thoughts upon the one predominant basic class of remedies and realizing its crowning pre-eminence, they seem to see all other classes as lying far away and far below? And knowing that man's nature is such that, in the end, he accomplishes most by doing one thing at a time, may we not hope that while exercising careful and constant discrimination in the use of that class of remedies which most contributes to our satisfaction, our success, our usefulness and our reputation, we may be making a forward step in a happy habit of like care and discrimination in the use of other classes of remedies?

It may be well here to point out the difference between *rational medicine* and the *rational adaptation of medicine* Unfortunately an invidious controversy has sprung up in favor of what claims to be *rational* as opposed to *empiric* medicine And in the literature of the controversy the words "rational" and "empiric" are used, each in two different senses In one of these senses 'empiric" implies recklessness, ignorance and aimlessness, in the other, confidence of cure based solely on former experience or observation of cure of like cases by the same remedy, without any comprehension of the mode of cure So the word "rational" as opposed to "empiric" generally refers to the effects of remedial agents upon healthy human beings or upon lower animals, these effects, though admitted to be purely physiologic, being considered a basis upon which to found the expectation of curative action in disease All knowledge, in whatever justifiable way acquired, is useful and desirable, but as all actions and reactions in nature are the outcome of conditions and relations and must vary accordingly, the only sure and reliable basis of therapeutics is clinical experience, or *trial upon the sick*, and therefore, in its origin, *empiric* Remedies suggested by physiologic experiments, by sanguine reports of credulous or interested persons, by extensive popular use, by aboriginal tradition or other similar insufficient grounds, need not always be sneered at, but must be first tried in the great court of clinical experience before they deserve to be duly accredited The rational medicine recognized in this paper is that which, tested for an adequate time by a satisfactory number of competent persons, on multitudes of patients, in varied localities and climates, and in ascertained doses and modes of administration, has been found to relieve the sick most surely, most quickly, most pleasantly and most permanently And the selection and use of individual medicines and methods so tested, and their careful adaptation to each varied case and condition is what is meant by *rational adaptation*

Among all the vast multitudes of human beings that have lived, that now live, or that ever will live, no two faces have ever been found, are now found, or ever will be found, with every feature, part and point precisely alike, so, and much more, in the relatively small number of cathartics, it can not be expected that any two of the number will be found completely one in effect Indeed, there are not now known, in the whole compass of materia medica, any two different substances of perfectly identical action In this, no doubt, is found the reason why, in our generation of authors, the alphabetic order is so much followed in the text-books on materia medica—any satisfactory classification being despaired of—and the names of the classes used being compared to "a row of pegs on which to hang ideas" But class names and subclass names of remedies, indicative of their most conspicuous, constant and regular action, are as old as medical literature and will never cease to be used in our language, our colleges, our hospitals and our homes "Cathartics" or "purgatives" will continue to be the name of a class, and its subclasses will be differentiated as laxatives, aperients, salines, cholagogues, hydragogues, drastics, etc, according to the characteristic degree or variety of action produced Their rational adaptation to the functions of the gastro-intestinal system will consist in such selection, combination and employment as may best tend to secure the desired degree or variety of action

It may be regarded as obvious that *cathartics must counteract and diminish the digestive and absorptive processes* by accelerating the contents of the alimentary canal in their course, so as to allow insufficient time for these processes to be duly accomplished It must also be obvious that *they must increase secretion, excretion and peristalsis*, as the increased size, number, frequency, fluidity, and other characteristics of the alvine discharges clearly demonstrate

It is hoped that sufficient has now been said to lead the practicing physician to consider the gastro-intestinal system, not as a single long, homogeneous organ with a single function, varying merely in its progress and stages, but rather as a chain of many distinct organs linked to each other, each organ in succession being the part in which some special process takes place, and to regard the remedies of the great cathartic class, not as all of substantially the same effect, but as each endowed with some individual virtue or combination of virtues, and fitted to accomplish some special purpose, and instead of telling his patient to "take a purgative," to prescribe definitely the particular remedy, time, dose and mode of administration

It may be well, however, to append a few practical facts, rules and reports illustrative of the importance of what it has been attempted to inculcate

1 By excessive or prolonged use of certain cathartics, the gastro intestinal system may have its susceptibility to their action so increased or diminished as to forbid their use

2 Different cathartics, for various reasons, act differently on the different portions of the gastro intestinal system, and should be prescribed in accordance with this fact

3 Certain cathartics are specially repugnant or otherwise unsuited to certain persons, and should not be administered to such

4 In case of cathartics, as of other remedies, overaction is apt to be followed by torpor the special irritability of the part affected becoming exhausted and thus acquiring immunity toward the special remedy used, this immunity being of longer, shorter or even permanent duration

5 Mercurial cathartics are regarded as antisyphilitic, germicidal and disinfectant, as regulating the flow of bile, increasing this when deficient, moderating it when excessive, restoring it when suppressed and correcting it when morbid They are specially useful in warm, moist climates and in acute malarial infection, less so in chronic malarial cachexia, in tropic and sub-tropic dysenteries, in sclerosis of the liver and in obstruction of the common bile duct This great variety and seeming contrariety in their action may be due in part to the doses, combinations and modes of administration used or to some existing condition of the patient

6 Drastic or irritating cathartics should be avoided in cases in which there is already irritation of the stomach or bowels, or a tendency thereto

7 In obstruction, in spasm or in great pain in the bowels, the less irritating and most surely acting cathartics, such as calomel or castor oil or the purgative salins, should be selected and combined with opium, hyoscyamus or other efficient analgesics

8 In numberless conditions of disease the purgative waters of the great fountains of health—too numerous here to mention—wisely, beneficently and widely distributed over the earth, or the pure artificial purgative salts, whether as cholagogues, hydragogues, deobstruents or alteratives, are more safe, sure, prompt, pleasant and efficient than other cathartics Such are effervescing magnesium citrate in the obstinate nausea and vomiting of bilious and other forms of malarial fever, sodium hyposulphite in hemato-globinuric fever, magnesic sulphate or sodic sulphate in the dysenteries of the warm climates, in dropsies, etc

Case 1 —V M , male, about 17 years old Sick of bilious fever, nausea distressing , vomiting almost constant restlessness extreme , thirst insatiable , fear of dissolution pitiful, and thought of delayed relief worse than the fear of death

Treatment Effervesing citrate of magnesia, improvised by stirring two teaspoonfuls of powdered magnesium carbonate in two ounces of water in one glass and adding to one half ounce of water in another glass the juice prepared from a fresh lemon, then suddenly adding to the suspended magnesia the lemon water, rapidly stirring, and applying hastily to the eager mouth of the patient At the same time a solution of soap in a half gallon of warm water was being made ready for lavement of the rectum and lower colon and was thoroughly used as soon as practicable This line of treatment, pursued as required, and supplemented by sinapisms or ice to the epigastrium, forehead and spine, speedily quieted the nausea, vomiting and restlessness, secured thorough cleansing of the alimentary canal and made ready the patient for the reception of quinin sulphate, 4 grains, at four hour intervals—all that was further needed in the remedial treatment of the case Sometimes morphin or other anodyne is an invaluable adjunct in the treatment of such a case

In Dallas, Wilcox and some of the other counties of Middle and Southern Alabama, visitations of pernicious dysentery occurred for several years—appearing and disappearing about the same time of year Most of the visitations occurred in June, when the days were hot and the nights cool So great was the fatality that a panic would seize a community whenever the disease would break out and this happened here and there almost annually from 1848 to 1858 The treatment was calomel and opium by mouth, and solution of silver nitrate by rectal injection With rare exceptions the termination was death About 1859, what is now known as the "saline treatment," was generally introduced This consisted in first giving in solution magnesium sulphate or sodium sulphate, with the addition of sufficient tinct opii or tint opii camphorata to lessen the atrocious tormina and tenesmus, until copious, soft, semifluid "actions from above" took the place of the scanty daubs of bloody mucus, that are so strikingly characteristic of dysentery Great good generally resulted from adding to the above treatment pellets of ⅛ grain of extract of belladonna every four hours, to allay the great irritation about the anus and to relax its sphincters In a few instances 30 grain doses of powdered ipecac, with one to two grains of powdered opium to each 30 grains of ipecac were given in pills at intervals of two to four hours as a substitute for the saline treatment Since the adoption of the saline treatment in the localities above mentioned, dysentery is seen mostly in sporadic cases, has a small death-rate and has ceased to excite any great popular dread

Case 2 —L W J , practicing physician, age about 40 years, a constant but not very excessive alcoholic drinker, became subject to spells of pain in the region of the gall bladder, for which he resorted to the use of blue mass Regularly in a day—less or more—after taking blue pills his skin and conjunctivæ would become deeply jaundiced, his pain increased and his alvine discharges were paler and more adhesive This succession of symptoms became so frequent and regular that he was advised to abstain from mercury, on the theory that he was suffering from biliary obstruction, and that the mercury, without relieving the obstruction, was increasing the secretion of bile and thus poisoning and staining his blood and tissues He was also advised to resort to a saline treatment, by using early each morning before breakfasting teaspoonful doses of magnesium sulphate, sodium sulphate, magnesium citrate, artificial Carlsbad, or some other purgative saline In a short while he was much relieved of his troublesome spells, and remained so until he passed from observation

Case 3 —E P , a little boy of about 5 years, who had been from tender babyhood, scratching and crying, day and night, with itch, was brought to me by his mother—one of the neatest and best of women and of housekeepers—for treatment Under the prescription given, the patient improved considerably but now and then, for months, I would be sent for to see the case At length, the dear woman sent for me, and meeting me at the door, with streams of tears flowing down her soft cheeks, said 'Doctor, I want you either to *cure Edgar or kill him*'" "Oh' madam, you don't mean what you say" "Yes, I do," she replied , 'I would rather see him dead and in his grave than to have him suffer longer as he does" In deep sympathy for the parent and the patient, and in deeper humiliation and discouragement at the utter failure of all the vaunted unguents, lotions, antiparasitics and [disinfectants that had been applied to skin, to clothing and to bedding, I sat pensively down and wrote the following

℞ Sulphur flores	℥i	31	103
Potass bitart	℥ii	62	206
Molasses	fl ℥iii	93	309

Mix and put in wide mouth bottle

Sig —Shake or stir well before using, and give one teaspoonful morning, noon and night, or sufficiently often to keep the bowels regularly loose

In due course of time the case was satisfactorily cured, and the grateful mother so valued the prescription, that to the day of her death, she would furnish a copy of it to such of her acquaintances as suffered from cutaneous eruptions

This report illustrates how remedies acting through the gastro-intestinal contents, pervade the whole body, pass through the skin and saturate and disinfect the very clothing of the patient

The parasitic worms, such as tape-worms, lumbricoids and ascarides, have their habitat, not in the human body itself, but in the contents of the gastro intestinal system, and such vermicides as destroy them are generally injurious, and many of them, highly dangerous to the patient They, therefore, require to be combined with cathartics, which, *by preventing absorption and increasing peristalsis*, hurry on out of the alimentary canal the deleterious anthelmintic substances, the disabled or destroyed worms, and the other morbid and morbific contents of the canal In this way, oil of turpentine and santonin, not only do better service by being all directly applied to the worms, but being kept from being absorbed and out of the blood, do not produce painful strangury, dangerous irritation of the urinary organs, suppression of urine and fatal nervous intoxication

This report is made from no particular case, but fairly represents many that actually occur, and aptly illustrates the great therapeutic importance of the rational adaptation of cathartic remedies to the physiologic functions of the gastro intestinal system

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ACETANILID ITS USE AS A PREVENTIVE MEASURE IN PREMATURE EXPULSION OF THE OVUM

Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY STEPHEN HARNSBERGER, M D

CATLETT VA

Squibb tells us that antifebrin and acetanilid are identical This latter drug, under the title of antifebrin, was discovered by Gerhardt in 1845, but it was left to Cahn and Hepp in 1886 to bring it before the medical profession as a remedial agent Acetanilid is a neutral chemic body, produced by the addition of glacial acetic acid in excess to anilin It should be a white crystalline powder, slightly soluble in hot water, sparingly so in cold water, and quite easily dissolved in alcohol, strong wine or ether To detect acetanilid in the urine the latter is shaken with chloroform, and the residue left on evaporation is heated with mercurious nitrate, when an intense green color develops

From the published clinical reports on the subject, it is plain that its clinical application has been confined principally to its use as an antipyretic, and to a less extent, to its sedative action in various nervous disorders and for the relief of pain, but so far as I am informed, Dr J H Wolfe, of Elkton, Va , and myself are the first to find acetanilid a serviceable remedy in threatened premature expulsion of the ovum During the past few years I have used this drug in varying conditions of advantages and disadvantages, in a considerable number of cases, and with decidedly encouraging results At no time have I witnessed unpleasant symptoms, and from its favorable action heretofore I am naturally led to believe it to be absolutely safe, and injurious only when administered without regard to reason or prudence

Formerly I had resorted to viburnum prunifolium, alone or combined with potassium bromid, to meet the pelvic symptoms, and to opium, in one of its forms, for its general quieting effect upon the system But the success of any treatment depends upon the power which the remedies employed exercise over the expulsive efforts of the uterus Some of the preventive measures used formerly, though they very often restored the disturbed function, at other times excited the uterine action by indirect stimulation, and thus defeated the final object. Opium, which was of old considered our sheet anchor in assisting to arrest uterine contractions, in its ultimate results, gives unquestionable instances of not being a trustworthy remedy. It must be noticed that its use too often produces a marked aberration of the functions of the stomach and bowels, and sometimes of the kidneys as well, secondarily at least, exciting the uterine contractions to uncontrollable effort.

Of course in administering acetanilid, as with many other drugs, it might be well for those not accustomed to prescribing it, to consider individual susceptibility and begin with small amounts, 5 to 7½ grains—0.32 to 0.50 grams. But even where the dose has been large, 10 to 15 grains—0.65 to 1 gram—and repeated at short intervals (one to two hours), I have observed no objectionable symptoms, certainly no alarming ones. It seems to possess a special relevance in such cases. Though I have frequently seen it pushed almost to the border-line of cyanosis, I am clearly of the opinion that one of the most striking advantages is the absence of any real unpleasant or dangerous effects. I have never had it produce nausea nor vomiting, collapse nor cardiac depression, in fact, I have seen it act seemingly as a cardiac stimulant in weak heart and as a systemic tonic in protracted nervous insomnia, neither cutaneous eruption nor ringing in the ears. The cyanosis of the lips and cheeks, which sometimes appears, is a symptom of no consequence. I have witnessed no marked action upon the secretion of the kidneys, occasionally an increased flow of urine and this only when the drug manifested a bracing influence upon the heart and pulse. Neither have I observed any evidence of its cumulative action. It does infrequently produce a rather profuse perspiration, but this in no wise interferes with the successful progress of the case, for, contrary to the belief of Dulácska, and perhaps of others, that the drug may, through the powerful action on the vascular system, induce dangerous hemorrhages, the close observer must admit that copious sweats cure hemorrhages. This has been determined too often to be laid down as a mere coincidence.

It is not in keeping with the title of this paper to enter fully into the causation of interrupted pregnancies, but to better illustrate the action of the preventive measure I advocate, I think it may serve a good purpose to make a brief suggestion in this connection. I am inclined to believe that when more reliable statistics shall have covered two or more decades a notable increase in the number of interrupted pregnancies will become apparent. From the result derived from a careful study of the circumstances surrounding such cases, I am also of the opinion that the disorder is not due to a great extent to single causes, but to a combination of several. And, in considering the causes, though it may be in conflict with authorities on the subject, nevertheless, I am constrained to believe that the great underlying cause is an inherited or acquired instability—a systemic and nervous depreciation brought on by the early operation of overstrained and other sinister influences incident to modern times and modern modes of living. By directing proper attention to the predisposing first cause, the tendency to abortions and premature labors can be notably limited. This plan certainly suggests itself to the mind as the only rational way, and at the same time, as we all recognize, it is the way not often left to the physician to follow. The great majority of cases of interrupted pregnancies are sprung upon us suddenly. Then what is to be done but to meet the emergency presented? Certainly we can not go back to undo the ravages remote to conception! The remedies at all serviceable heretofore have required adjuvants which have been frequently attended by evil sequences. In using acetanilid, adjuvants are never or seldom necessary, thus avoiding all reactionary phenomena. This, if for no other reason, should recommend its further trial as advisable in the treatment of threatened premature deliveries.

Whether affections of the endometrium are primary or secondary to mechanic or pathologic changes outside of the uterus, the fact remains that the functional integrity of this membrane is vitiated and that its potency as an essential factor of intrauterine life of the ovum is greatly compromised and natural fetal existence constantly jeopardized. During the course of the first two months and perhaps including the third, even where the symptoms are strongly suggestive, it is no easy matter to forecast the probable pregnancy with any measure of certainty, but with grounds for a fairly correct diagnosis and where nature seems too dilatory or unable to accomplish a *restitutio ad integram*, acetanilid, 5 to 8 grains—0.32 to 0.51 grams—repeated in one, two or four hours, can commonly be relied upon as a helpful procedure. We frequently see women, who are usually regular, pass over a catamenial period. Their suspicions may be aroused, but at the appearance very soon thereafter of the menstrual flux, though it should be accompanied by an increased discharge and more pain, it is looked upon as only a delayed period—they being unaware that one of the clots which has been expelled contained the immature ovum. In just such cases, by the judicious administration of acetanilid a little before and continued a little beyond the usual time at which the monthly flux occurs, the vigor of the uterus seems to be increased and the staying qualities of the ovum strengthened. Again, in those cases of ovarian irritation, where there seems a tendency to the separation of the ovum at what would have been a menstrual period, I think most decided benefit will be found to follow the use of viburnum prunifolium and potassium bromid, with more or less regularity, and of acetanilid at the time of each periodic disturbance. The pain in the back during pregnancy is a nervous susceptibility, and all such patients should be specially careful and on every accession of pain should promptly seek rest and be put upon a few doses of this drug.

Acetanilid has proved of no less benefit in habitual than in simple threatened miscarriages. In a few cases of women who bore histories of habitual loss of the ovum during previous pregnancies, even where the symptoms were alarming—rhythmical uterine contractions, considerable hemorrhage and accompanied with more or less pallor and vomiting—a state of calm was quickly reached under the administration of acetanilid in doses of 10 to 15 grains—0.50 to 1 gram—at intervals of one, two or more hours.

But I will desist from the temptation to refer to every clinical aspect in which acetanilid might be used to advantage, neither will I enter into a discussion of the treatment of the endometritis, nor of the many other pathologic conditions which tend to contribute to interrupted pregnancies—these will occur to the thoughtful physician. It may be well, however, before leaving the subject, to call attention to the fact t [illegible] eir [illegible] symptoms are minimized by administering acetanilid with alcohol, strong wine or ether

I was requested to prepare a paper for this meeting of your association and have presented this one, in order, if possible, to have acetanilid more widely used and its virtue as a preventive measure in premature expulsion of the ovum more fully appreciated

After I had completed my paper, I received a letter from Dr Wolfe, in which he gave me the following brief notes of three cases

Case 1—Was called in August, 1891, to see Mrs E H W, of Elkton, Va, She had on previous occasions aborted three times and said she was confident such would be the case that time I gave her three powders of acetanilid of 10 grains each—one to be given every hour, if required, until relieved She took one at 4 P M and one at 10 P M, the third she never took, as the first two were sufficient to quiet every symptom Patient was delivered three months thereafter of a fine girl baby

Case 2—Mrs E H H, sent for me Dec 10, 1895 Pains every ten to fifteen minutes and rather severe I at once gave her 10 grains of acetanilid Spent the night No more pains No relapse for three months, when, after washing some house hold goods, sent for me in great haste Found her quite sick Repeated prescription with the same result

Case 3—Mrs Wm D, of Elkton, Va In August, 1895, was called to see patient Suffering very much, labor pains every ten minutes Had had ten abortions in succession and no living children Patient was terribly alarmed Gave her 15 grains of acetanilid every two hours, with complete success She went her full time, only taking some dozen powders during that period

In concluding this letter, Dr Wolfe says "No unfavorable effects and but little sweating I might add that I have used the medicine in many other cases with success"

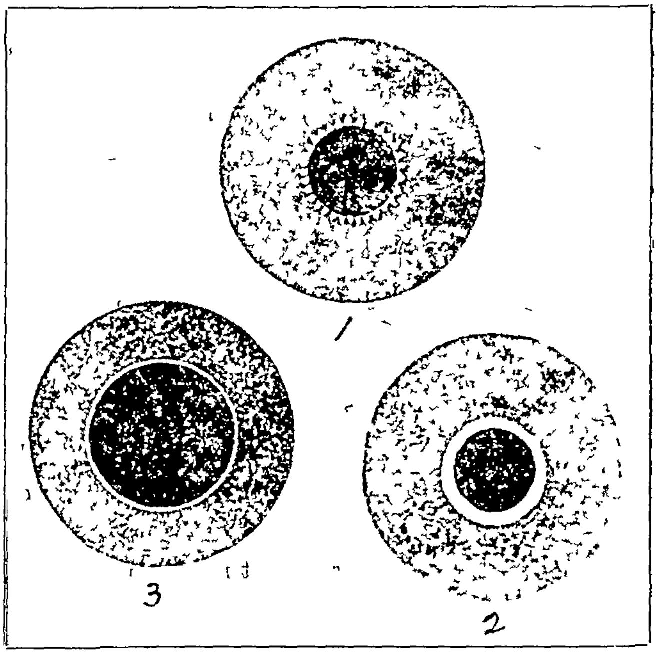
INTESTINAL OBSTRUCTIONS FROM GALL-STONES, WITH REPORT OF A CASE

Presented to the Section on Surgery and Anatomy at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo, June 7-10 1897

BY JOHN PRENTISS LORD, M D
OMAHA NEB

Sunday, March 14, 1898, I was called in consultation to see a man, aged 70 years, who was suffering from acute intestinal obstruction, and suffered from vague gastro-intestinal symptoms for about one year, which had caused him to take medical treatment most of the period, without relief, he had been reduced in general health and strength, although he had maintained a very fair degree of vigor, and had filled his place as clerk uninteruptedly until the previous Thursday, when he was attacked, while at breakfast, with a sudden acute pain in the left side, midway between the umbilicus and the spine of the ileum He left his breakfast uneaten and went to the office where he continued to suffer from pain and nausea, had an evacuation of the bowels and vomited At ten o'clock he saw his physician, Dr Malster, who prescribed and sent him home The pain did not continue to be troublesome, though the vomiting did, and became stercoraceous on Friday Large doses of calomel and salts, together with frequent enemas, had not moved the bowels, and on Sunday it had become apparent that relief must be obtained by other means Vomiting was now frequent and distressing, markedly fecal, and his strength was waning His temperature was 101 and pulse 120 The tympanites was moderate and palpation produced little pain A tumor-like mass was recognizable in the pelvis, below and internal to the sigmoid, and it was thought to be most likely a volvulus, with a loaded loop of bowel producing the tumor, which would account for the suddenness of the attack An operation was recommended as the only recourse promising relief, its dangers, in our aged and enfeebled subject, were fully set forth to the family, who having lost three relatives following surgical operations, during the preceding two years, did not give their immediate consent Lavage of the stomach was thoroughly performed at 1 30 P M, and no vomiting had taken place when he reached the hospital, a distance of two miles, at 5 P M The stomach was again irrigated before the operation, which immediately followed

The bowel containing the obstructing body was readily brought through a two inch median incision, and while surrounded by gauze and the intestinal contents controlled by the fingers of an assistant, through the usual longitudinal incision, a mass of material was removed The mucosa was approximated by Czerny sutures, then a continuous of the serosa, when the line of union was finally fortified by Lembert sutures



Inspection of the gut revealed a considerable deposit of fibrinous lymph upon its surface, which gave the serosa a rather ragged appearance One particular portion of a rough, grayish character, excited my attention, but resembled the other portions so closely that the gut was considered in condition to return

The patient was forty minutes upon the table, suffered little or no shock, had no vomiting after operation, and within a few hours took salts hourly until bowels moved repeatedly The patient's condition was ideal, pulse 85 and temperature 98 Strychnia had been used hypodermatically, since before the operation No food was allowed by the mouth for forty eight hours, but nutrient enemata with alcohol were administered All went well until the third day, when, after a repetition of the saline, evidence of peritonitis manifested itself The following day the wound gave evidence of infection and the retention worm-gut sutures were removed and on the fifth day the wound margins were separated and a thin pus with a distinct fecal odor escaped, after which there was an improvement in both local and general symptoms, which had become quite marked, and from this time convalescence rapidly followed The fecal odor and discharge disappeared with no apparent ill consequences, and the patient has made a complete recovery, he now being better than for more than a year previously

The specimen removed was of about the size and shape of a small hen's egg, but more sharply conical near its lesser extremity, which had the appearance of having sustained loss of its substance by fracture of its apex The body was, for the most part, smooth with the exception of a small irregular elevation on its side, which I now believe to have been the cause of the spot of questionable vitality referred to in the history, and which gave way on the third day, producing the small perforation, which by rare chance terminated most favorably

The lesson from this should be to inspect carefully even apparently smooth solid objects removed from the gut, that their damage to its integrity may be estimated at the time, for the pressure effects from within from even a small elevation upon the surface of the obstructing body, may be very considerable, with but slight evidence upon the serosa, which may be easily overlooked or underestimated

Section of the specimen shows it, without a doubt, to have a gall-stone for a nucleus, the central portion possessing the characteristic radiation of cholesterin crystal, together with the salts from the decomposition of mucous The concretion of material about the nucleus is largely composed of biliary sediment, but in the absence of a complete analysis, I am unable to say whether it is wholly of gall-bladder formation or not A partial analysis shows that it is composed for the most part of biliary sediment and fat The bile contains a considerable proportion of fat, so that this does not preclude the possibility of its being wholly of gall-bladder origin There being an entire absence of a history of gall-stone, colic or jaundice, it is probable that this entire body, or the stone represented by the nucleus, found its way into the bowel by ulceration While the common duct is capable of much distention, yet all will agree that it would not give passage to a stone of the dimensions of this specimen, and certainly not without pain, of which there was no history The statement of the old-time authors that stones as large as hen's eggs are passed by the duct, must not be credited, and we are forced to the conclusion that their belief in their passage through the duct, was by inference, and mistaken for their exit by ulceration, which process can no longer be in doubt, fistulæ, or evidence of their previous existence, having been shown between the gall bladder and duodenum in thirty-three out of fifty one autopsies as well also, were fistulæ found between other organs "Few stones large enough to produce obstruction come from the duct" is among the conclusions arrived at by Roth Literature and weight of evidence, however, would seem to indicate that most of these cases of obstruction from gall stones are developed after the gall stones have remained in the intestine for a considerable time and had their size augmented by the concretion of fecal matter upon their surfaces, which is a possibility in the present instance That single stones of this size do form within the bladder is true, they having been found at autops [illegible] and also having been passed within a few days a[illegible] symptoms of local inflammation, [illegible] ceration [illegible]

obstruction had taken place The bowel may become dilated or sacculated to accommodate the stone, or it may become lodged in Meckels diverticulum, in any of which instances it may become dislodged at any time to form a more or less complete obstruction While *obstructions from gall stones form about* 2½ per cent of the cases of intestinal obstruction, according to Leichtenstern's figures (which are now far from recent) it is probable that with a closer analysis of cases in these later days, when these conditions are much better understood, the percentage will be considerably increased This inference does not appear unwarrantable when we consider the statement of Bevan that cholelithiasis exists in from 8 to 10 per cent of individuals from 30 to 60 years of age, and after 60 years, in the surprising number of 25 per cent of cases examined postmortem Of the cases of intestinal obstruction from gall-stones, 80 per cent are womem This affection is very rarely met with in those under middle age, the great majority being well advanced in years

The manner in which obstruction takes place most frequently is by mechanical obstruction of the intestine from the interrupted passage of a large stone, the stones of less size than the caliber of the intestine are capable, in some cases, of bringing about obstruction, which would seem to be due to an early stimulation and contraction of the circular muscular fibers always found in this as well as in other forms of obstruction Mayo Robson classified three other varieties of obstruction resulting from the effects of the pressure of gall-stones, which he described as the paralytic form, dependent on local peritonitis in the region of the gall-bladder

Volvulus of the small intestine depends either on the violence of the colic, caused by an attack of cholelithiasis, or on the contortions induced by the passage of a large concretion through the small intestine, and obstruction depending on adhesions or on stricture the result of past gall-stone attacks, or of healing fistulæ

From the foregoing, as well as the fact that gall-stones may exist for years without knowledge of their presence, it can not be said to be a reflection upon us if we are unable to make a diagnosis previous to operation, though with a previous history, causing the straws in the stream of events to point toward the gall-bladder, we may be guided to the source Then, too, it is usual that pain is sharp and sudden, though not protracted Vomiting is early and quickly stercoraceous, usually within twenty-four hours, except in chronic or subacute cases, when it may be delayed several days, and distention is not a prominent symptom, for the stone may be, and usually is, above the ileocæcal valve—the lower ileum in half of the cases The nearer the stone to its origin the less the tympanites The cases of greatest abdominal distention, it will be remembered, are where the obstruction is in the rectum, sigmoid, or some part of the large intestine The passage of flatus or feces amounts to no more than a possible evacuation of the bowel below the obstruction, which is most likely to take place during the height of the pain and tenesmus, accompanying the onset of the attack Palpation may reveal the situation of the stone in subjects not too fat The possibilities of s [illegible] n [illegible] s relief by the passage of [illegible] is pro [illegible] m 30 to 50 per cent of [illegible] e [illegible] 80 per cent will die [illegible] ortality from operations hitherto has almost equaled these figures, so that these cases which should be naturally favorable for successful operative relief, present difficulties which leave it an open question when to interfere, and how long to wait before operation is resorted to Delay can not be said to be a safe rule in any form of intestinal obstruction It is my belief that if all cases were operated upon within the first twenty-four hours the mortality would be reduced We must therefore impress the general practitioners with the necessity of earlier reference of these cases to us, as we must in all cases of intestinal obstruction We must lessen the number of last resort operations More of the unfavorable results in operative cases are due to the condition of the patient and the parts involved, than to the fault of the operation

The general practitioner may treat a case upon rational lines, in absence of, or because of unobtainable skilled surgical aid, and present statistics will justify him in his course But under what we may consider favorable surgical circumstances, I believe that fecal vomiting should be the signal for operative interference in gall-stone or any other form of obstruction, where proper and adequate measures have been tried without relief

The measurement of this stone soon after removal was four and one-half by six inches in circumference, and was two and one sixteenth inches in length Marshall of Glasgow reports a case measuring one and three-quarters inches, by three and one-quarter inches in circumference Smith and Fagge report a stone two and one half inches, by four and one half inches in circumferance Conglomerate stones, or those formed by the union of several stones, have made larger bodies than single stones Enteroliths and pure concretions become larger, but these are almost always formed in the large intestine

Lavage of the stomach was referred to in the history, which is a treatment of great value in both the medical and surgical treatment of intestinal obstruction, in my experience And I will here say that it is my usual practice to precede operations for the relief of intestinal obstruction with this procedure and, while it may be the practice of many operators, I do not recall having seen, nor having heard it recommended, it having occurred to me by witnessing patients of mine almost strangle from vomitus in the larynx during anesthesia Indeed, effort at vomiting does not have to take place to cause the stomach contents to overflow in many of these subjects, over-distended with physic and feces The lowered head and a final palpation of the abdomen by the operator are quite sufficient to cause a flood of the fluid to embarrass the anesthetizer and endanger the patient, immediately by suffocation, and remotely from the inspiration of the highly infectious intestinal contents The good results from this practice are always gratifying, not only during anesthesia, but following it There was no vomiting in this case, which enabled the patient to retain salts as soon as consciousness was restored

If the vitality of the gut is not free from suspicion it should not be returned until the proper protection has been afforded against subsequent leakage A few Lembert sutures would have prevented the very dangerous mishap in the case reported Omental grafts are an additional security to the line of union, and should doubtless be more frequently employed

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THE USE OF ELECTRICITY BY THE GENERAL PRACTITIONER

Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo, June 7-10 1898

BY CALEB BROWN, M D
SAC CITY IOWA

In the successful prosecution of any line of work it is necessary to have good tools to work with, and in no calling is this more important than in the treatment of disease, the relief of suffering and the prolongation of life, which are, or should be, the aim of every physician Were we to examine the armamentaria of the general practitioners of medicine, we would find that where they had electrical apparatus it would, as a rule, be the farthest from up to-date of any appliances they might have The reasons for this are twofold first, the market is flooded with, so far as treatment of disease is concerned, worthless but not always cheap electrical appliances, the fancied merits of these machines being constantly paraded before the medical profession by manufacturers and selling agents, second, physicians are not sufficiently well informed as to what they should or should not buy Were we to ask every general practitioner in this country Do you use electricity in your practice? many of them would answer yes, but should we examine their apparatus we would find in a very large per cent of cases that their electrical outfit consisted of a so-called family or physician's battery, a box containing one or more cells, with a coil attached for the faradic current and possibly an arrangement for the galvanic current, but absolutely no reliable means of regulating the dosage No rheostat, no milliampéremeter, none of the modern appliances

While I do not say that such a machine is of no possible use in the treatment of disease yet I would most emphatically say that it is not what we want if we are going to do good, scientific work As galvanism and faradism are the forms of electricity most used by the general practitioner I will confine my paper to this part of the subject, the electro-cautery being used principally by the specialist, and static electricity, while it is one of the most useful forms of electric energy in the treatment of disease, yet is employed as a rule, only by those who use electricity quite extensively and are, to some extent at least, specialists in electro-therapeutics Let us see then what apparatus is necessary for the proper use of galvanism and faradism First is the cell for generating electric energy Let this be a cell with carbon and zinc immersed in a solution of ammonium chlorid For the galvanic current we will need from five to sixty or even more cells, connect these to a proper switch-board so arranged that any number of cells can be switched into circuit and also any cell or cells can be examined at any time as to their working capacity It is then necessary to have a rheostat for controlling the current and a milliampéremeter for regulating the dose The last named instrument is the most important, for without it no accurate work can be done, as we can only estimate the dose used by the number of cells in the circuit or the sensations of the patient, both of which are very unreliable I will not attempt, for space will not permit, a description of a good faradic apparatus, suffice it to say we must have two to four or six cells like those in our galvanic battery, and a series of coils varying in length and fineness of wire according to the condition we wish to treat, and with an interrupter that can be regulated to give slow or rapid vibrations

A full description of the proper use of the positive and negative poles in galvanism can not be given in this paper but is better learned by a study of individual diseases in text-books on electro-therapeutics While polarity of the faradic current has been denied by some yet there is certainly a difference in effect produced by the application of the separate electrodes We may say as a rule that the most active polarity is the negative and should ordinarily be placed nearest the affected part Or in general faradization the current should be directed with the blood-current

In studying these two forms of electricity—galvanism and faradism—in their physiologic effects and therapeutic uses we must remember that the galvanic current is of large ampérage or volume and small voltage and its action is chemic or electrolytic, while the faradic current is electro-mechanical, having a low ampérage but a very high voltage Having these two thoughts firmly fixed in our minds we have made a start in the right direction in the study of the effects of electric energy on the animal organism

If we also understand the pathology of disease and have proper electric apparatus we are ready to begin the practice of electro-therapeutics, but to carry it out successfully we must understand the subject of electricity as a physical science, we must know our anatomy, physiology and pathology perfectly, we must learn to use it where indicated and dispense with it when it is contraindicated as we would any other means of combating disease I am not of those who think electricity a panacea for every ill or that it should be universally made use of, but when intelligently used it makes our medicinal treatment more effective

First among diseases treated by me in which I have found electricity beneficial I would place goiter I have treated this subject more fully than the limits of this paper will allow in a paper read by me last year at Harrisburg, Pa , before the American Electro-Therapeutic Association In that paper I gave results of treatment in quite a large number of cases of this disease I will not devote space to describe the various forms of goiter further than to say that, aside from a true tumor growth, goiters are hard, soft, vascular or cystic, according to amount of fibrous tissue, fluids or blood-vessels entering into their structure And we may state, in a general way, that the harder and firmer a goiter the less curative effect as to reducing its size will electricity have, yet on the other hand, although but little may be done in reducing the size of a firm goiter by electricity (aside from electropuncture), yet it will relieve to a great extent the nervous symptoms and pain, and even in exophthalmic goiter we may do much to slow the heart, calm the nervous system and improve the general condition of our patient

The proper form of electricity in this disease is galvanism placing one pole on the back of the neck, or behind the angle of the jaw, the other on the tumor a very strong current is not necessary . Reverse the poles, placing first one then the other on the back of the neck or one on each side of the tumor, shifting them often enough that too great irritation of the skin will not result Give medicine if condition of system demands it I have never used electricity in this disease that the case was not benefited both in decrease of size of gland and relief of nervous symptoms Many cases are cured, in some the gland has again enlarged, others have remained cured But when we remember that latent embryonic cells may be stimulated by an enlarging thyroid body and a true tumor result, amenable to surgical treatment alone we see the importance of curing these cases in their early stages, and for this, one of our greatest aids is undoubtedly galvanism

We who do a general practice often have patients come to us who complain of pain in various parts of the body, muscular soreness, lame joints and a general worn-out condition I remember seeing a statement by some medical writer that when you have a patient with a pain you can not account for in bones, joints or muscles to give iodid of potassium, I usually go one step further and use, in conjunction with the iodid or any other proper medication, general faradization, and with happy results

In neuralgia we often have great benefit from the use of electricity If the pain in a nerve is caused by neuritis, electricity is perhaps not our best remedy, but the further we get from the acute inflammatory condition and the nearer to the chronic inflammation or purely functional trouble the better effect we will have from this agent, and in all such cases it is indicated and is very helpful This is markedly so in sciatica In using faradism in this disease use a high tension induction coil with negative pole on sacrum using an electrode four to six inches in diameter, connect a smaller electrode with the positive pole and place over the course of the nerve

To use galvanism in the same disease place a large electrode, five to nine inches in diameter, connected with negative pole over the sacrum, a somewhat smaller one connected with positive pole firmly over one of the most painful points of the nerve, increase the current from zero until a feeling of warmth is produced, hold it so for a few minutes, decrease it gradually and treat each painful point in this way The current will need to range from five to ten, fifteen, twenty or even more milliampéres, according to the effect

The range of diseases in which electricity may be used to advantage by the general practitioner is very wide and new uses will suggest themselves to him as his experience increases Where I have found it most useful is in functional nerve troubles, subacute inflammations, such as chronic rheumatism, in neuralgias, lumbago—and here it is particularly useful—also as a general tonic, and last but not least, in goiter, when used in appropriate cases

In conclusion I would say that when we use electricity let us use it intelligently and with care, let us study it as a physical science, let us study it in its physiologic manifestations on the animal organism, but above all let us study the pathology of the diseased conditions we are to treat Then if we will get good apparatus and use it with as much intelligence as we would give any drug, we will find electricity to be a most potent factor and a strong ally in our battle against disease

But let us not make the mistake of considering electricity a cure-all, but ascribe to it its proper place, believing that a force that can propel cars, run the heaviest machinery, light a city or enable us to talk across miles of space, or break up molecules into their ultimate atoms, must have some effect, when properly used, upon the metabolism of the human organism

CONSERVATIVE TREATMENT OF INTESTINAL OCCLUSION BY INTERNAL ELECTRICITY

BY R P JOHNSON, M D
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In reviewing the different means of relief recommended and practised by American medical men for the cure of intestinal obstruction, the investigator is led to believe that what is regarded in some of the European medical centers as safe, successful, not interfering with the employment of the more radical procedure — laparotomy —is entirely ignored, or in fact, not even considered here From a fair amount of investigation of the subject I am convinced that the American practitioner is neglecting to employ therapeutic means that have been satisfactory for years to many of the most eminent men of Europe

The physician who is called to see a patient, whose most prominent symptom is one of non-movement of the bowels, may have a very obscure but serious case to contend with Cathartics and enemas have been ineffectual, so it is a case of obstruction What is to be done? A surgical operation may be the proper thing If there is hernia, a stricture or lodgment of foreign body, a knot or a loop in any way strangulated, it will be the proper thing and should be done at once But how are you to determine? Some say that a laparotomy must be performed, but the operation is too serious as a means of mere diagnosis If the condition is the result of an intestinal concretion, an impaction of fecal matter, a paralysis, producing some dilation of the walls of the bowel and many other conditions that go to make up the pathology in these cases, laparotomy would be a failure The last enumerated cases are not to be relieved by surgery We have excellent authority for saying safer and better means are at hand

I here quote from a recent article from the pen of Dr J Larat of Paris, France Dr Larat's experience and standing in the profession are sufficient guarantee Dr Larat says, in speaking of the good results of the electric injection as used in the hospitals of Paris "In cases of intestinal obstruction let us see what the therapeutic results are Dr Boudet of Paris, in statistics taken from 50 cases, reports the successful operation of 70 per cent" In speaking of himself, he says "I have now applied the injections in 250 cases I have obtained a clearing of the intestines in 101 cases Thus my successes are less than those given by Dr Boudet However, they still remain satisfactory All my cases have been seen by my colleagues, who called me in to assist their patients, and at least one half of them are doctors of the hospitals Thus my statistics have been well tried, and it would be easy for me to secure the testimony of my colleagues and masters When called to see a case, and after having tried a purgative and an enema without any result, do not insist any longer but immediately administer the galvanic injection In twenty four hours it will be recognized successful, or not In cases of failure, propose a surgical operation to the patient"

If the above statements are trustworthy, they leave no doubt as to the positively curative effects of electric injections on cases of obstinate constipation, where there is great torpor of the nerves supplying the muscular coat of the bowels The condition of the semi-paralysis is fully proven by the great want of response to cathartics and also food that is inclined to keep the bowels in a soluble condition Nothing has so decided an effect on nerves partly paralyzed from a functional condition as electricity, and especially of the form of galvanism, where the muscular fibers are non striated, as in the bowels and other hollow organs Dr Larat's conclusions are worthy the consideration of every physician and surgeon In the advice which he gives in the management of these cases he certainly shows a fairness and professional dignity worthy of the eminent physician he is He in no way tries to belittle the grand results obtained by surgery To further substantiate what may be regarded as an unwarranted and unjust statement that the American practitioner is neglecting to employ therapeutic means that have been satisfactory for years to many of the most eminent men of Europe, I here append a list of sixteen printed medical documents that can be found in one library of Chicago on the obstruction of the bowels cured by electric injections Of this list of sixteen medical articles, which are generally in the form of reports of different cases, only three are from American writers For the collection of the above articles I am greatly indebted to Dr Mangus Moreneus, who has charge of the department referring to electricity, in the Newberry Library Dr Larat of Paris, France, gives a list of printed reports on this subject by twenty-four different authors, not one of whom is American Beside the forty articles above referred to, I have the names of title and authors of thirty other printed articles on intestinal obstruction and constipation, treated successfully by internal electricity, not one of which are from American writers They would make my article too tedious to give them all here

It would appear that surgical interference is sometimes resorted to rather rashly I here quote from the pen of Dr Mathews, in his most excellent work on "Diseases of the Rectum" Dr Mathews is president of the American Medical Association, and is recognized authority In speaking of the obstruction by fecal matter, he says such accumulation has ended in the death of the patient Obstruction caused by fecal matter in the cecum has been confounded, time and again, with appendicitis, and operations have been done, looking to the removal of the appendix, which were unwarrantable, and right here begins the much discussed subject — whether these cases belong to the surgeon or the physician Dr John Ashhurst, editor of the International Encyclopedia of Surgery, in a recent article on "Intestinal Obstruction," says "I very much fear that at the present day, the hasty resort to operative measures, encouraged by the much vaunted modern triumphs of abdominal surgery, is responsible for the loss of a good many lives which might, perhaps, be saved by more rational if less brilliant treatment"

From the statement I have quoted from Larat, it would appear to the unbiased mind that where the pathology is obscure, therapeutics in the form of internal electricity should be tried first If this treatment will relieve the cases where surgery is not suitable—which are fully 50 per cent of the whole—and in no way preclude the knife in surgical cases, certainly the mortality can be greatly reduced The statistics of cures by surgery would be very much better if cases not indicating surgical assistance were treated as here advised No fair-minded physician or surgeon is so enthusiastic in his own specialty as to desire professional work where his efforts will be unsuccessful I think you will find no other disease in which the per cent of cures are so evenly balanced between the efforts of therapeutics as here described and surgery A monopoly in either department of the science and art of medicine and surgery in these cases can not fail to greatly increase the rate of mortality, and when you consider that the use of electricity need not require more than twenty four hours to give it a fair trial, it can not be objected to

The electric enemas not only assist in removing the obstruction by inducing a normal peristaltic action, but impart tone to the vasomotor nerves which supply the non striated muscular fibers forming the muscular layer of the intestines

It is a well established principle in electrotherapeutics that the active pole of the battery should be as near the tissue to be treated as possible What I mean by the active pole is the one in nearest proximity to the diseased tissue Convinced that strict observance of this principle was important in order to have success, and having some cases of obstinate constipation to treat, about one year ago I had constructed a special rectal tube inclosing an electrode The electrode is so constructed that it supports the caliber of the tube, thereby preventing its kinking or doubling, which enables the operator to pass it into and beyond the sigmoid flexure In this way the colon can be thoroughly flushed, and by connecting the cord-tip of the battery with the binding-post of the positive electrode, and the sponge of the negative electrode over the abdomen, or some other part of the body one can administer a thorough and real electric bath to the mucous membrane of the colon Peristaltic action is generally set up in from one to five minutes Certainly no other therapeutic remedy is half so potent, with no danger nor pain

As to the amount or intensity of current to be used If the battery is not supplied with a milliampéremeter or galvanometer, it will be safe to rely on the sensibility of the patient Commence at zero with either a galvanic or faradic current and slowly advance to the degree of considerable warmth with galvanic current If you use the faradic current a greater degree of sensation from the current will be required After the current is continued for a few minutes, turn back to zero and again slowly increase to the former intensity If at this point of procedure the patient expresses a desire to go to stool, at once discontinue the treatment If the desired results are not obtained repeat the treatment in from three to six hours

As to the kind of electricity to be used, Dr Larat of Paris, whom I have freely quoted in this article, says the galvanic current has the most decided effect on non-restricted muscular fibers, such as compose the muscular wall in the bowels, bladder and other hollow organs, nevertheless, in the list of printed articles and authors I have here mentioned, the faradic current has been the most generally used As to the fluid to be injected A 1 or 2 per cent salt solution is more efficient than mere warm water, on account of more thoroughly dissolving the mucus covering the membrane, and also, of about doubling the strength of current of electricity imparted to the mucous membrane In speaking of my own success with this form
of treatment for the past year I will only say
pectations have been more than realized The
ments that I have been using and

most satisfactory to several specialists can be found at the Hydro-Electric Instrument Co, Chicago

If in the large list of authors I have referred to, only three are of our own country, does it not indicate that we are a little slow to investigate this very important matter? Can it be that omissions like this have anything to do with sending so many to European centers to complete their medical education? I do not assert that it is so, but suggest it for the reader's consideration I would not refer to this so much at length if the remark, in substance, that the virtues of internal electricity in the treatment of intestinal obstruction and constipation have not as yet been fully demonstrated, had not been made to me many times by physicians in the last year

Some who read this article may suppose it is from the pen of an electrotherapeutic enthusiast and one not having had experience in surgery To disabuse the minds of such, I will say that when quite young I was an assistant-surgeon in one of the Ohio regiments in the War of the Rebellion, since which time I have had many years of experience in railroad and general surgical work and am by no means faint-hearted I could not if I would, and would not if I could, cast a shadow over the grand achievements of American surgeons In a humble way I am one among the many But in the van for professional preferment, for which we are all striving, let us not lose sight of the fact that he stands nearest head who does the greatest good to the afflicted, even though it be with the simplest means

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FORMATIVE NUTRITION

Presented to the Section on Diseases of Children, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY H W SCAIFE, M D
CHICAGO ILL

As defined by Webster, nutrition is an "act or process of promoting the growth, or repairing the waste, of animal bodies," from which it appears there are two divisions of nutrition The first is a "*process of promoting the growth*' And it is to a
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n the face of

disease and death which formative nutrition gives to the young It is then at its best, its capacity for repairing the waste has attained its maximum, and then the frame ceases to be augmented

On an inquiry into the process of forming and building animal tissue, the first point of importance is to find the seat of nutrition, which is easily determined by reducing tissue to its simplest factor, that we find to be the cell, and the cell, according to classic plan, consists of envelope, protoplasm and nucleus Each of these has its part to perform That of the nucleus is unimportant and can be dispensed with in some instances, the protoplasm seeks out and chooses the food, the nucleus, devoid of mobility, presides over the building up process The nucleus will replace any part of the cell that has been removed by the knife, and hence we have only to infer that the process of formation is effected by the same agent as that of reformation, and the conclusion is the seat of formative nutrition is the cell nucleus Binet says "The nucleus is the essential factor of the plasmic vitality," and "if, to use an old comparison of Aristotle, we compare the protoplasm to the clay, we must compare the nucleus to the potter that has fashioned it" From which simile an inference is to be drawn which may affect the question as to which parent the child should most resemble The mother supplies most of the material, the vitelline protoplasm, but this exerts no formative influence, this is food, while the formative impetus is given by the nucleus By the rapid segmentation of the cell, in which the nucleus always divides first, the being is increased in size and takes on form, it augments in substance, cell arranging itself with the other cells, and appropriating for each organ its separate function

Another phrase, "As the twig is bent, so the tree inclines," indicates the importance of getting a good start It emphasizes the responsibility of the physician whose duty is as the husbandman's, in whose care so many young trees are placed for cultivation To his judgment the future welfare of many infants is committed He is the adviser of the young parents as regards tending and feeding their infant offspring, and often is forced on him a dreamy speculation as to the method nature employs to make a normal figure or one abnormal, a plain man, a vigorous giant or a puny dwarf On either hand that which is abnormal may be considered the cause of a disease, depending on the function of some obscure organ, as the pineal gland But apart from causes, he knows nutrition is the chief thing for him to understand, to enable him to advise wisely what food to give to form muscle, bone, nerve or brain, according as to what is needed when his advice is asked He thus is compelled to think at times of the deep secret nature has hidden in formation of animal figures

In the first place we observe that this process is rhythmic, as all other things in nature, and that we have not to expect the same results at different epochs, but varied success At one time one kind of food is needed, at another, another kind, and as the seasons and circumstances vary, the food should vary accordingly The ovum has its time to mature, the embryo its time to quicken, the fetus its time to be born So the infant has its time to grow chubby and its time to grow lank As a plant, the child will increase in height between April and August, and in weight between August and December To learn more of these variations, and to explain cause of the changes as we do the phases of the moon, or the ebb and flow of tide, is desirable, to take them into account in studying what to do for individual cases is necessary But as yet, food is the only thing we can understand and control to any great extent, and is therefore the all-important subject to consider in regard to nutrition It controls the destiny of every child born, and determines whether they shall be great or small It is said fishes in a small fish-pond are small in size, but if you enlarge the size of the pond the fishes grow larger, which shows that size is often determined by the quantity and quality of food which is available The change of food from the solid substance to the nutrient fluids, and the internal secretions by which this change is accomplished, are fairly well understood Its reduction to chyme and chyle, its osmosis and final arrival and reception into the blood-vessels is told us in every physiology And now the secretions of the ductless glands and their effect on nutrition is being studied by specialists, and new and interesting discoveries are being made They are found to be necessary to health, their several defects have been found to bear certain relations to diseases of special malnutrition, as, for instance, the relation of defect in the pineal gland to that disease of acromegaly But when we arrive at the point where assimilation occurs, when we come to the functional physiology of the cell, our task becomes difficult and largely partakes of the character of guesses The nutrient fluid of the blood passes through the cell If the cell be one of the salivary glands it comes out ptyalin, if it be one of the peptic glands, pepsin If it be some other cell it may come out as a white or red corpuscle of the blood, and be ready for building up the organism by growth, or for repairing the waste when growth has ceased

The process beginning with the act of eating, and going on up to assimilation, is called digestion, and as I have said, is fairly well understood That beginning with assimilation and ending in excretion is called metabolism It embraces, 1, pabulum, 2, a substance actually in contact with life, and 3, excretion This process is again divided into two parts the first half, in which the cell substance, the cytoplasm, is coming in contact with the living principle and is being builded into living substance, is called anabolism, and the second part, belonging to excretion, the breaking-down process, is called katabolism That is the process evolving animal heat Now, when anabolism is greater than katabolism, we have growth, which takes place in two ways, either by multiplication of cells or by individual enlargement Minot has pointed out the difference between a growing and a matured cell He says that "the proportion of cyto plasm to the nucleus" was less in the latter So the cell arrives at maturity when the matter of the cell and its nucleus bear a certain proportion to each other in size And if the time taken for this be constant, the duration of its existence can be deduced by aid of another proposition

The normal duration of life of animals is, some think, five times the time it takes that animal to mature Observation, however, seems to have shown that some animals of the fish species grow as long as they live Geology shows us animals in earliest ages of enormous dimensions Mythology tells us of serpents that would measure one hundred feet We read of the remarkable ages of the patriarchs, and sometimes also of their enormous size In the plant kingdom we still meet with remarkable longevity The common bracken fern never dies of old age The oak tree may live a thousand years Nature is in no hurry to separate life from organism, but leaves it in its environment till a purpose in evolution has been accomplished for it It begins with a growing point in a unit or cell, the arca germinativa or nucleus This commences to grow From it radiating lines are sent out through the cryptoplast by which every part of the cell is reached This in animal life is regarded as the basis of the nervous system It grows till we get a spinal system, a sympathetic system and a brain, each exerting continuously, severally and combined, an influence on nutrition as at their inception "It may be," says Halliburton, "that all nerves have power of transmitting trophic impulses" He means the nerves are the builders of the body, and what is behind them is food

Professor Holt says "In building up the cell the proteids are first in importance, the carbohydrates second, and the fats the third" And under the head of the mineral salts he says "they are of greater importance in infancy than in later life, because we find that they are stored up in the system at that time more than later on" Is that all? In Parkes' Hygiene we learn something more on mineral salts They are food for vegetables The lowest forms of life will not grow without earthy phosphates "The growth of wheat is more quickly checked," he says, "by the absence of phosphoric acid than any other constituent from the soil" But the mineral salts which are necessary for plants are changed when incorporated in plant substance for food for animals It was said so when organic chemistry began to be studied, and though chemistry has had many triumphs, as for instance the manufacture of uric acid, it is almost certain that minerals that have not been prepared for our use by being incorporated in vegetable organisms are not food Therefore it is a misnomer to call those that have been prepared as proper foods mineral salts, or at least it is misleading, unless exception is made of the chlorid of sodium, of which Foster, p 840, says "200 grams a day are essential for the discharge of metabolic function" In which instance we may regard it as a necessary environment for the living principle, not a pabulum It assists in the elimination of excreta which the life principle is constantly throwing back into the blood, and which, by the help of sodium chlorid, can be excreted from venous blood through skin, kidneys and lungs The other salts, and chiefly those of the phosphates and acetates, are given to us for food through the vegetable kingdom, and their absence produces the highest form of acute malnutrition, called scurvy It is well we emphasize the importance of these salts to the young, but not well to emphasize the adjective mineral Neither minerals nor mineral waters can be recommended for infants or for the young The salts they need are those furnished by vegetables, and in point of importance should stand first on the list as tissue-builders in formative nutrition Protoplasm is the material used in construction of the body, the carbon, the nitrogen and the hydrogen are the brick, the wood and iron of protoplasm Oxygen is the workman's tool, the hammer and saw, while the builder, the force regulator, is phosphorus

In plant elevation the process of nutrit
thetic, accomplished by sunlight through
of chlorophyl By its action the rays is stored up and becomes potential Nutrition in the animal requires a further "very remarkable psychologic process," and constitutes a method by which this potential energy becomes active and is used up or expended, so the animal receives its energy as it should do its substance, from the plant directly, or indirectly through the body of some other animal Sunlight may be absent from its growth, though it can not be absent from plant life The glowworm will give up the light absorbed by day in the darkest night, so may sunlight be faintly replaced in animal growth, when building in darkness, by the phosphorescent element derived from plants

But with writers on biology it is usual to acknowledge that we do not know how a living substance builds itself up And that means we do not know the process of formative nutrition A writer on micro-organisms says that "simple cellular psychology is a conception of the mind, rather than a study based on observed facts" Now we have viewed a few facts on which we may try to base our conception of cellular psychology The fact of long-continued life and gigantic forms in early eocene ages gives us an association of small minds in big bodies And in giants we have now we do not see higher development of mind attending larger bodies We expect to find it otherwise, as if the body can be developed at the expense of impoverishing the brain Consequently the alternative may be true, that the body can be stunted by abnormal development of brain and nervous system If, then, formative nutrition be arrested, it may be either debility arising on the one hand from improper food, or on the other hand from an insufficient supply Or it may result from too much mental exercise, too many studies, or too many cares of life If it be the former, improper or insufficient food, the result is anemia, marasmus, scorbutus or rickets, or if it be the latter, we have precocity Suppose we take it to be the former condition, then we must remedy conditions

In house plants we sometimes see luxuriant growth and yet no flowers The anxious owner knows not what to do with her plants Accidentally she sees a "plant-food" advertised, buys it and gives it to the soil—marvelous change! The plant ceases growing and begins blooming That plant-food was perhaps nitrogen in a form that could be assimilated by the plant Hence the sudden change Many children are like house plants, in need of a particular change of food They need phosphorus Their cartilages must be changed to bone, the phosphates of sodium into the phosphates of calcium, and the phosphates in the food are needed to effect this The anxious parent inquires, Why is it that my child does not grow? He fills it with medicines that have the best reputation for remedying these troubles, and still no change will come—no improvements But pure air and poor living would get it, if by poor living we mean brown bread, skimmed milk peas, cabbage, pork and beans, oatmeal, and less white bread and butter, less tea and coffee, less medicine and fewer school studies

Now, as to the expression of opinion touching the importance of phosphorus in formative nutrition, we find it supported in the standard works of physiology Of the ide od for infants, M Foster
p 61 milk consist of phos-
process of curdling
tes appear to be

absent And, beside the phosphorus in the actual form of phosphates, milk contains further considerable quantity of phosphorus in the proteids and in nuclein " To the child who is not fed on milk, with so many factors necessary in nutrient-food, one may fail to be supplied by its artificial product Hence, we may find that a diet prescribed with scientific skill, will fail sometimes, when success attends the other regulation of diet by an untutored mind One mother says "my baby did well on Eagle Brand," another, "that brand was no good for mine" One prefers Horlick's malted milk, another, Mellins', some try them all without achieving any success Why? Because the ingredient phosphorus is not given in sufficient quantity, while in the instances where prepared food succeeded, it may have been supplied from an independent source, as for instance, by the addition of good cow's milk For M Foster says, p 630, "from a biological point of view, the phosphorus is no less important than carbon or nitrogen "

Manufacturers do not put up a food for the market devoid of carbon or nitrogen, these are blended in exact proportions, but no account is taken of the salts One says, when cow's milk is properly diluted the salts may be dismissed from separate consideration, and yet the same will acknowledge that an infant may thrive on one woman's milk and suffer immediately from indigestion if put on another woman "It has sometimes been necessary," he says, "to try a dozen " "It is possible," he says, "to vary the percentage of fat, sugar and proteids in milk to almost any degree desired, and to do this with very great accuracy ' "At present," the same author says, "a separate modification of inorganic salts is not attempted " Though this style of preparing food may be of great value, when other important things are not overlooked, it is nothing to be relied on when the salts are regarded as being impossible to regulate It only teaches the parents and physicians indolent reliance on manufactured articles in false security, instead of studying and practising the proper cooking of natural foods And we need not believe that accuracy of proportion of carbon and nitrogen a positive necessity, for what was the anus given us if not for the elimination of unproportioned elements? Better leave it with a burden of work to do, rather than omit a small article of diet that is necessary for the proper performance of assimilation

The numerous prepared foods for infants may all of them be useful for a change, though they may not contain the salts in the proper kind and quantities, for the carbon and nitrogen which they do contain But life and health can not long be supported by them exclusively, and when the child is healthy we never think of using them

In general, it is best in directing the diet of children to discard long courses of medicine, or drugs and prepared foods, and to try and select their diet from such foods and condiments as are generally found on the table, for we are then liable to get all those elements of food that constitute the body Then we shall stand a good chance of succeeding in improving malnutrition of any description, and of proving the benefit of our profession to a needing part of the community

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Physicians' Book keeping —The courts in Paris recently decided a case on the principle that a physician's books were sufficient evidence of his claim, unless there was manifest exaggeration

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SOME THOUGHTS ON THE CARE OF INFANTS AND CHILDREN

Presented to the Section on Diseases of Children, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo , June 7 10 1898

BY J A WORK, M D

ELKHART IND

Of all the young of God's vast creation of animated nature, none are so helpless as the *newborn babe* The young of the lower order of animals can all early help themselves to their furnished food, not so with the human species, thus the demand for especial tender care, and how generously the mothers with natural affections bestow their aid and sympathy to the little weakling Though perfect in its anatomic construction, yet as soon as breath enters the heretofore functionless lungs, the whole animal machinery of many members moves into new activity, and we can now declare, surely, that a new life exists The first care that the infant's helpless nature demands is at the hands of the accoucheur and nurse, the responsibility largely resting on the former The proper start in life, as in every other great undertaking, is an important factor to success

It is fitly asserted, from a moral standpoint, that the beginning of the child's moral culture should precede its birth at least two generations, no less should be required of its physical training Heredity should receive due consideration as to offspring The very tender, pliable brain cells become arranged very early in life, in accord with its environments, habits of system, whether good or bad, become soon fixed and it becomes extremely difficult to change them How deplorable to find a mother ignorant of and not competent to understand the first principles governing the physical interests of her offspring This condition of mother, together with a careless or perchance impractical, inexperienced medical or physical adviser and nurse, presents anything but a flattering future for the helpless little creature of circumstances, however, we will take a more hopeful view and assume that all parties concerned in the well-being of the infant are adequate for the occasion

With a mother ordinarily endowed, physically, morally and mentally, an accoucheur of good judgment, ever ready for emergencies, if any should arise, a nurse capable of obedience (at least) to all the details given her by her superior, the doctor, we are in a proper condition to safely assist the little personage to his new and unexplored realm, suited to his wonderful possibilities However, not a few infants are injured for life (and a miserable life, too) just at the last stage of the labor that gives them an existence Sometimes this commiserable event is unavoidable, I refer first to the effect on the cranial viscera due to the employment of forceps, which injury of the brain the child scarcely, if ever, recovers from, second, the cervical portion of the spinal cord is often injured, or at least sometimes, by severe traction by the head and twisting of the neck, with or without instruments, when the shoulders are difficult of deliverance, this occurring usually after the head is delivered, and can be avoided by the accoucheur hooking his index finger into the axilla of the child, and thus employ traction which does *not* strain or injure the spinal cord

All things being equal, the first care of the infant's body is to cleanse the surface of all extraneous or precipitate substances by the employment of some oleaginous agent, rich in glycerin Fresh aseptic lard is the most efficient for this purpose of any substance I have yet employed After the surface has been thoroughly anointed and the precipitate thus dissolved, then wipe with a soft cloth with as little friction as possible, and by not employing any kind of soap, the normal oil of the skin is preserved, and the above procedure adds to, rather than takes from, the normal condition of the surface, and renders it less liable to chafe

The umbilical cord should be dressed in surgeon's aseptic cotton, and thus treated, as a rule it need not be disturbed, neither will it disturb, until it sloughs

I do not recommend washing the infant's body oftener than once in two or three days, but during the interim of washings, gentle friction of surface of body with a soft cloth or hand, is good treatment In washing, soft water should be employed

Bands around the body should not be too tight, but should be snug enough to support the walls of the abdomen in case of distention Clothing should be of the softest texture, and its conducting or non conducting properties should be according to the conditions of the atmosphere If mothers were taught and impressed with the importance of changing their children's clothing with the change of the atmosphere, I daresay many precious lives might be saved to the home and society, and much grief prevented The child's clothing should be of equal warmth—that is, if possible, the surface temperature of all parts of the body should be the same and so maintained, and it is important to have clothing so constructed as to have equal pressure This latter proposition should be also required of grown-up babies, and upon equal pressure, or, rather no pressure, depends equal circulation and warmth, to a greater or less degree

Face and hands should early be habituated to the atmosphere, not forgetting the self-evident fact that the infant is a new and separate being, and must do its own breathing, and should have a living chance to do it The atmosphere should be of the purest quality, and not from under the bedcovering of the mother Temperature of the nursery should be from 85 to 95 degrees at first, and gradually lowered to 75 degrees however, several days should elapse before reaching the lower temperature Each individual case demands its own peculiar care, and the successful accoucheur must be an efficient nurse, or at least he must be competent to instruct his nurse efficiently, according to the needs of each particular case The nurse is the physician's agent, or orderly, and should be so instructed as to readily know what constitutes a normal anatomic and physiologic babe, so that she may instantly discern any deviation from the standard, thus the need of trained and educated nurses in general obstetric and nursery practice

The first few days of the infant's existence will reveal any anatomic or physiologic defect or weakness, and it is within the province of the nurse to notice any defect which has escaped the casual and hurried scanning of the busy attendant physician and she should report at first opportunity An effort should be made early in the child's life to correct defects, whether they be structural or functional, with a reasonable hope of success in a majority of cases

One of the most irrational procedures in child culture is to neglect the physical while developing the mental, in fact, a proper development of being requires a strict observance of all the immutable laws governing development or evolution It is a sad mistake to withhold any of the vital stimuli from the *feeble*, whether it be of either body or mind Pure outdoor air for the feeble infant or child, even at an expense of warmer clothing than is required for in doors, is a wise investment, and will in time count on the credit side by bringing color to the cheeks and vigor to the priorly lax muscles, especially where the child is properly nourished And I will note right here, that this department of the nursery is attended with more disaster than any other There is a great diversity of toleration of food and powers of digestion and assimilation This being true, it requires greater wisdom than is usually manifested to manage successfully the average child's larder

If mothers can know the first symptoms of indigestion and take warning, know what to do and do it, if their sympathy did not overcome their judgment, much trouble could be averted We must institute training schools for mothers, as we have for nurses, or else compel doctors to take time to instruct the young mothers, with authority to enforce obedience to the instructions The deleterious results arising from the mistakes in the feeding of children are greater than in any other department pertaining to their physical culture All things being equal, the mother's milk is the best suited to properly nourish the infant Too often infants are weaned from their natural food too soon, without a reasonable cause, and substitute foods employed suddenly are dangerous The proper and rational procedure in weaning a child, as a rule, is to wait until we notice an insufficiency of the natural food, and then *gradually* add the artificial, commencing with the smallest possible addition and increasing until we reach a sufficiency The child will usually wean itself As a rule, the Creator has wisely and abundantly provided nourishment for the infant, and substitution is unwarranted and is next to criminal Next to the mother's milk, at our command, is fresh cow milk, if carefully and wisely administered

Some contend that cow's milk should be sterilized If it is not properly collected and contained, it is well to sterilize it, but if milked into sterilized containers and used soon after, there is no more necessity of going through the process of sterilization than there is to sterilize the mother's milk In either case the *fresh milk* is sufficiently sterile, if the source is healthy

DISCUSSION

Dr William C Hollopeter Philadelphia—First I would emphasize the fact that the first cleansing should be done with oil An infant should not have water applied before several days after delivery Several years ago I had occasion to study this question particularly in reference to premature infants I had two patients with deformed pelves, and I have delivered them each of three infants, one at six months and twenty three days The care of that infant consisted simply in keeping it in an equitable temperature with oil and not touching it with water, except about the nates with a cloth wrung out of hot water Such an infant may have its death insured by improper treatment Many infants die in the winter season by gradual cooling of the extremities, especially after being washed with water I had a case two or three years ago in which I am sure the infant died from that sort of exposure, although it was in a well to do family in the country On the second or third day after its birth, at the beginning of the seventh month, it was being nursed by a trained nurse before a warm fire, wrapped up in a great wad of cotton on a cold bleak day The cold draughts of air from the windows and doors going toward the fire, the side of the child from the fire was thoroughly chilled while the other side was warm I was called out to bring my incubator on the third day After the incubator was raised to a temperature of 85 degrees, on unwrapping the baby I found it cold and stiff While the side toward the fire was red, the side away from the fire was cold and blue Many infants born at full term after being washed with water are then put in a cradle, and especially in houses heated with a grate, we will get a chill of the side away from the fire, and bronchial trouble and other affections will arise which will cause its death If the day is cold and chilly, I intend to insist upon keeping the infants in a box, or any way so they are comfortable and will not chill

Dr **Mary E Green**—Some one has said that two thirds of the diseases of after life are due to the malnutrition of the first two weeks of infancy I think that probably is largely true One man has made the statement that nine tenths of the children are fat starved In view of all these statements that have come to us as practitioners, it behooves us to consider what the diet whould be The Doctor very correctly said that the mothers should be educated along this line I have so often noticed the patent foods recommended during the first two months of life I believe that it is wrong to give the child any starchy food for the first six months of its life at least I believe the child's food then should be cream, or the upper part of the milk, with water one-half I like what the Doctor said about the sterilization of milk No child can remain healthy for a long time upon sterilized food There is a lacking principle, so the child does not thrive on sterilized food I think sterilization is unnecessary if perfect cleanliness is carried on in the preparation of the food Some experiments have been carried on in giving children modified milk But in all those laboratories absolute cleanliness is observed, and if as much cleanliness is practiced in preparing the usual food for infants, as good results will be obtained All the attendants are obliged to wear duck suits, and perfect cleanliness is observed The question of food is a very serious one up to the age of school life

Dr **E Stuver**, Rawlins, Wyo —I believe it was Holmes who once remarked that the education of a child ought to begin about two hundred years before it was born The child ought to have a strong healthy mother, a mother who can provide an abundant supply of the nutriment that nature has intended the child should have during the first year of its life I believe one of the most important points in securing good healthy children is to pay particular attention to the health of the child's mother, and after the child is born, if the mother has a disclination to nurse it, try to show her that is one of her duties as a mother to assume that responsibility Furthermore, I believe most of the patent foods do not supply what they should supply for the infant Take for instance our condensed milks A child may grow plump and apparently strong on condensed milk, but it is much in the same condition as the old beer drinker Let him contract a serious disease and he has four or five times as many chances to die as a person in good health The flabby, condensed milk baby stands a good many more chances to die than the baby that has been fed on good natural mother's milk

Dr **Brown** of Illinois—The problem which I think especially interests practitioners in regard to feeding infants has occurred in the smaller towns where we are without milk laboratories and where it is absolutely impossible to have any form of modified milk We are called into houses where children are dying of marasmus and malnutrition, where there is no ice in the house in the hottest summer months, where the milk is obtained from a milkman, carried several miles in hot cans on hot days before it reaches its destination To make a modified milk out of that is entirely out of the question I am in the habit of giving my better patients a formula for making a modified milk But in the poor and ignorant classes it is impossible to give any instructions they can follow We have to resort either to the patent foods or condensed milk In choosing one of the two evils I choose condensed milk, because it is the only way to get a food in the smaller towns I am in the habit of adding cream, because even if you get cream from milk in an unhealthy condition, carried around in tin cans three or four hours in the cities, the cream is less likely to be infected

Dr **Mary E Green**—I was going to make a remark about condensed milk There are condensed milks and condensed milks Some of those put up with sugar I think are objectionable, but there are condensed milks put up without sugar, and to those there is little objection I have seen children brought up on such condensed milk and they have done well Recently I attended the health exposition in New York Three hundred cows were presented by Dr Brush It was an exhibition of the care of the cows and the milk Dr Brush furnishes the milk at 14 cents a quart It is not sterilized or modified in any way The only thing about the dairy is absolute cleanliness That is the one thing I think we should advocate more than anything else Not long since I attended a dairy convention and I heard a dairyman make the statement that he did not believe there were any dairymen furnishing milk to the cities in the summer who did not use some antiseptic, especially boracic acid or some form of borax If that is so, I think it is something physicians should know and we should fight against it Whenever antiseptics are used they render the milk unfit for children We want milk from a herd of cows rather than from one cow, but let it be clean

Dr **R B Gilbert**, Louisville, Ky —The consideration of artificial food is secondary If the child can not have its mother's milk, then we have to use something else One thing is the condition of the mother furnishing the food for the infant There are many times her milk is injurious In a great many samples of milk this will be found to be true, if you examine it from day to day, and the doctor should do so continuously The same thing may occur in the cow that furnishes the milk I am glad to hear the statement that the milk should be taken from the whole herd rather than from any one cow Not only that, but the food the mother eats has much to do Food that contains pickles or anything of that kind, or food such as onions, will affect the milk Mental anxiety will often modify the milk for several hours so the infant can not digest it I do not know what the process is, but there is an excess of the casein and a diminishing of the peptones in a fit of anger or anxiety of any kind, or grief, as from a misfortune, for instance It goes without saying that alcoholic stimulants all modify the milk One case in particular comes to mind, of a child 6 months of age, that died while under my care The mother went over in another part of the city to do a day's washing On her return home she smoked an old strong pipe more than two thirds of the distance home Immediately after nursing the infant became limp, decidedly feeble, and I could hardly understand why it was so It looked like it had been poisoned On inquiry I found she had used two or three pipefuls of strong tobacco in smoking, and I attributed the death of the child to that In reviewing the whole subject, you can not find any food, in my estimation, that is equal in any respect to the mother's milk

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COLPOPERINEORRHAPHY AND THE STRUCTURES INVOLVED

DEDICATED TO DR THOMAS ADDIS EMMET AND MR LAWSON TAIT IN RECOGNITION OF THEIR LABORS IN THE SURGERY OF THE PERINEUM

BY BYRON ROBINSON, B S, M D
CHICAGO ILL

Concluded from page 925

Relaxed vaginal outlet, concealed lacerations or deep musculo-fascial tears of the pelvic floor, can not be too forcibly brought to the notice of the physician as an important diagnostic indication for colpoperineorrhaphy Kelly calls such, concealed relaxation

This is a condition of loose, gaping vulva, compared to the mouth of a bag without its puckering-string by Dr Emmet If the patient lie on the back the fork of the buttocks looks flattened, the anus appears everted, and one may observe the vaginal mucosa bulging out above or below The condition is frequently described as rectocele or cystocele, or both Others call it perineal laceration Some will write that it can not be perineal laceration, because the skin perineum is longer than the normal one The skin perineum is longer than normal because, when it was stretched at labor, it never returned to normal (subinvolution) Occasionally one can introduce the four fingers of the hand and put the long relaxed perineum on a stretch It is in these long, lax skin perinei that physicians disagree as to conditions, the one asserting that the perineum is plenty large enough and does not require an operation, while the other rightly asserts that the perineum is but a small part of the support of the sexual organs The fact is, the whole vagina and sphincter apparatus has become deficient, the vulva pouts, the anus everts, and the floor of the pelvis flattens out If the patient is requested to bear down, the anterior and posterior vaginal walls will roll outward, often to an astonishing degree By the act of straining, the cervix can be felt descending The patient has utero ptosis The sacro pubic hernia is more marked if one examines the patient in the standing position By careful inspection and palpation while the patient lies on the back, one may feel the retracted cicatricial stump ends of the lacerated levator ani muscle, and by irritating the little cicatricial elevated or depressed stumps we can see the contractions and relaxations in them Sometimes the perineum or lower posterior vaginal wall is so [illegible] that it is large enough to close up the

The horseshoe loop of the levator

from one p the

the resis

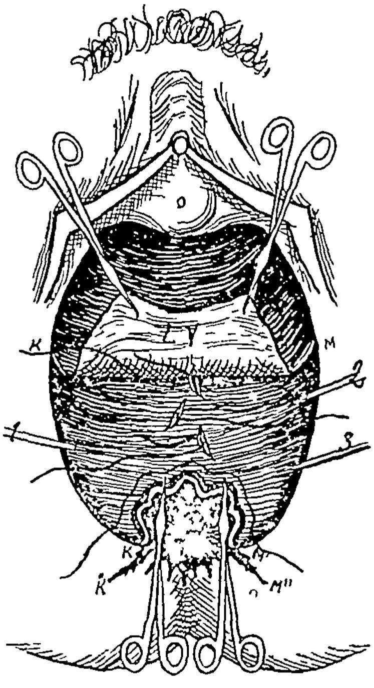

Fig 46—Advanced stage of the flap splitting operation L, V anterior vaginal flap held up by forceps, the posterior rectal flap is held backward by forceps the most posterior suture is placed along the margin of the torn rectum other sutures are being introduced by being threaded in the median line and drawn out Note that the needles do not penetrate the skin or mucosa

in the middle one feels an irregular sharp edge of narrow dimensions Also the loops of the levator are more displaced to the side of the vagina Though the patient can generally control stool, yet the vigorous elasticity of the muscular loop is definitely impaired With the patient on the back and the two index fingers in the vagina, one can quickly test the degree of deficiency of the sphincter vaginal apparatus by pressing downward and backward The vulva may pout with perineal skin intact, and the same may be said of the rectum The fascia and levator ani may be quite defective on one side and intact on the other side In very sensitive women, made worse by long-continued irritation, the examination is occasionally delusive, because reflex irritation puts parts on a tension

We may classify the operations for colpoperineorrhaphy into three general divisions, viz posterior median colpoperineorrhaphy, posterior bilateral colpoperineorrhaphy, and the posterior flap colpoperineorrhaphy Some of the principal originators and advocates of posterior median colpoperineorrhaphy were Dieffenbach, Langenbeck, Baker-Brown, Osiander, Simon, Hegar, Hildebrandt, Jobert, DeLambelle, Le Fort, Schroeder, Werth and Reamy

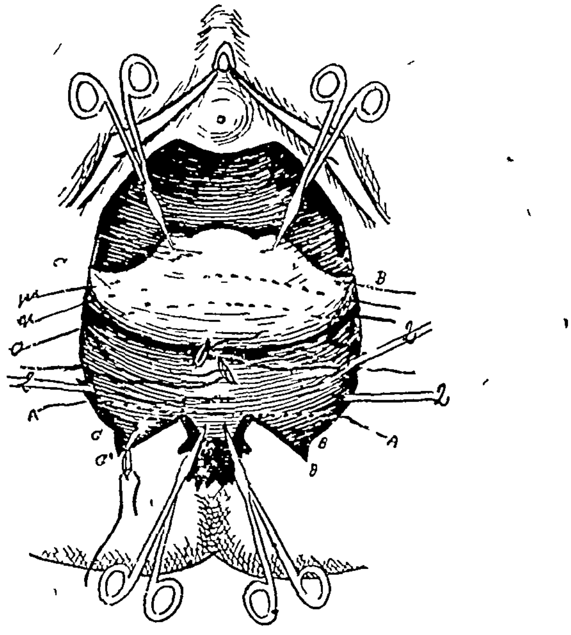

Fig 47—Another stage of flap forming Observe that the most posterior suture is being introduced by the needle passing from one side of the denuded wound to the other because the space is short but the denuded surface under the flap is generally so wide that it is most practical to pass the handled needle from the lateral margin of the wound to the median line where the needle is allowed to emerge and become threaded Thus the sutures are passed through half of the wound at one time

The chief originators and promoters of bilateral colpoperineorrhaphy are Emmet, Staude, Freund, Martin, Bischoff, Goodell and Kelly Some of the pioneer originators and advocates of the posterior flap colpoperineorrhaphy were Langenbeck, Duncan, Tait, Jenks, Voss, Simpson, Marcy, Colles, Sänger

Whatever the apparent differences of the above three classes of procedure, all the advocates practically agree that definite denudation (flap or otherwise), exact approximation of wound surfaces, and d[illegible] sutures (without tension), based on anatomic

prerequisites of success Methods

are not so important as attention to

l principles The physiology of

d by an overstretched perineum or elongated supports (enteroptosis), it must be restored by reproducing as near as possible anatomic integrity.

The relaxed tissue must be corrected with deep sutures and dissection, the blood-vessels must have a definite supporting bed in which to functionate, the peripheral nerves must be protected against continued repeated trauma, and the organs must assume a normal position, all of which belongs to the domain of colpoperineorrhaphy. The genius of Emmet established the utility of surgical procedure in the vaginal sulci. The grand operations of Bischoff sparing the posterior vaginal column (or median vaginal surface) foreshadowed and aided Emmet, as well as the scholarly labors of Schatz on the pelvic floor. As a pupil of A. Martin in 1884, I saw the contemporaneous and independent development of Emmet's operations in the vaginal sulci, in the hands of the most skilled gynecologic surgeons of Germany.

It may be remembered that the Emmet and Tait operations are alike valuable in operations for relaxed vaginal outlet, with the advantage in the Tait operation of a flap to protect the wound. The reason Emmet's operation is about of equal value is that healing in the vaginal sulci is almost certain, hence but little danger of loss of valuable tissue by non-healing. Nothing is gained by denuding an area of vagina over retaining that same area intact, for it will contract to its original size shortly after the tension which produced it is removed.

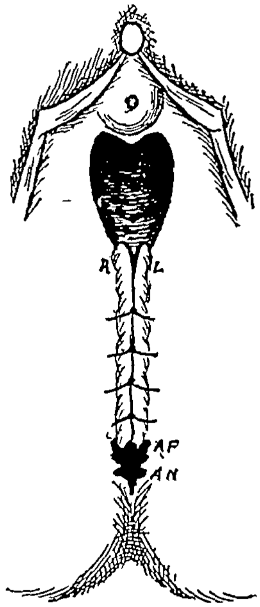

Fig. 48.—Finished operation in a case of complete laceration. R, L, anterior end and A. P. posterior end of newly built perineal raphe. A, N, ossus ani is a little patent.

The rational symptoms resulting from lacerations requiring colpoperineorrhaphy are very numerous and varied, but they follow a logical sequence. In general the chain of symptoms is as follows. A local point of irritation—an infection atrium, reflex irritation which unbalances the other viscera (abdominal and thoracic). The irritation, from a focal point, travels up the hypogastric plexus, the ovarian plexus and the lateral chain of sympathetic ganglia to the abdominal brain and thoracic plexus, which aids in disturbing the visceral rhythm. Anatomic facts must be inspected. We find on each side of the uterus a large ganglion, a massive collection of nerve cells which has been termed the cervico-uterine ganglion. We may call it the pelvic brain. An enormous mass of nerve-cells—the abdominal brain—is found at the root of the celiac axis, just behind the stomach. Three great ganglionic masses of nerve-cells are found in the neck (superior, inferior and middle cervical ganglia), and a vast, intricate network of nerves in the heart—Wrisberg's plexus. Each of these large ganglionic nerve masses is in intimate and close communication with the genital organs. Many strands of nerves connect each ganglion with the pelvic viscera.

It is the numerous nerve strands which play the important rôle, because many strands, tracts, will carry many messages, and a few ganglion cells can take care of innumerable peripheral reports. A few ganglion cells will receive and dispose of many messages from many lines. Now the ganglion cells—the thoracic, abdominal and pelvic brains—assume a certain control over the rhythm of their respective viscera. Hence the viscus which is the most intimately connected to those three brains by many nerve strands will exercise significant power over the rhythm of the organs. One of the chief functions of a viscus is rhythm. If this be disturbed the organ becomes defective and fails in its final object.

Let it be remembered that the irritation from a diseased organ is emitted at all times, without regard to

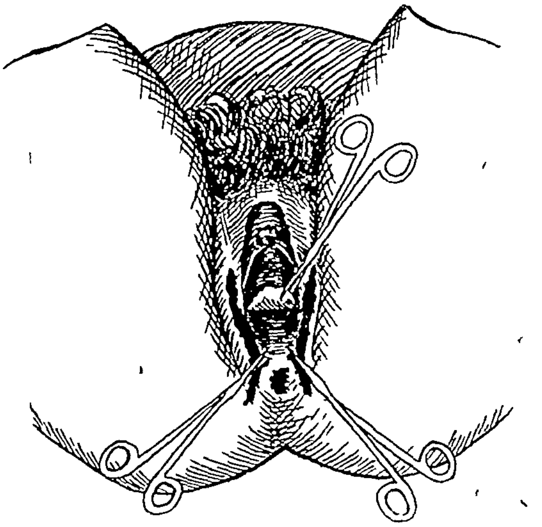

Fig. 49.—(Author.) Method of forming the flaps with a non complete laceration with anterior and posterior "cuts" and vaginal flap.

physiologic rhythm by which the organ accomplishes its mode of life. The occasion of rhythm is the natural stimulus of an organ, as food for the digestive tract, air for the lungs, blood on the endocardium, urine in the urinary tract, a fetus in the uterus, fluids in the Fallopian tubes, and food material in the liver, carried to it by the portal vein. If we follow a diseased message emitted from the pathologic genitals up to the abdominal brain over the lateral chain—the hypogastric ovarian plexus—where it is reorganized and emitted to the digestive tract, we may observe the following disturbances. Excessive secretion in the digestive tract, deficient secretion, disproportionate secretion. Excessive secretion may induce diarrhea, deficient secretion, constipation, and disproportionate secretion may produce fermentation (bloating), the continuation of such reflex factors institutes indigestion. The reflex irritation, passing from the diseased genitals to the abdominal brain, is reorganized and transmitted to the liver over the hepatic plexus. This pathologic irritation produces excessive, disproportionate or deficient secretion in the liver The liver secretes bile, glycogen and urea It has a rhythm, just as the heart or lungs

The transmission of pathologic irritation—reflex irritation—to the liver unbalances its rhythm and disturbs its secretion If the rhythm of any organ be disturbed its function will soon become defective For example, the rhythm of the small intestines is governed by the superior mesenteric ganglion, which induces a rhythm four to six times daily, according to food indigestion Improper foods, disturbing the regular rhythm, soon induce indigestion The descending colon, sigmoid and rectum (the fecal reservoir) is controlled by the inferior mesenteric ganglion, which makes a daily rhythm The superior mesenteric ganglion has a four- to six-hour rhythm, while the inferior mesenteric ganglion has a 24-hour rhythm Any one knows that disturbing the rhythm causes constipation, and eventually many neurotic symptoms arise Long continued indigestion produces malnutrition Pathologic irritation passes to viscera at all and any times, in season and out of season, day and night, while organs are attempting to rest or to pass through a rhythm, always causing disturbances Organs secure rest and repair between rhythms

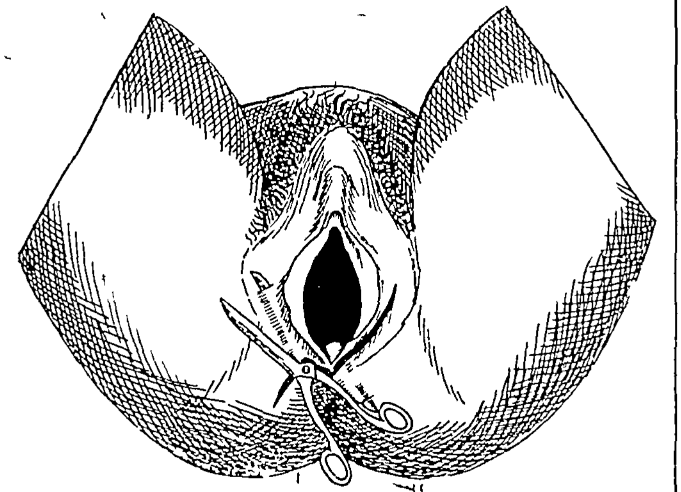

Fig 50 —(Robinson Scholer) The flap formation On the right the scissors are shown forming the anterior cut on the left the blade of the scissors only is shown forming the posterior 'cut ' beside the rectum

Malnutrition is followed by anemia—a disproportion between the blood vessels and plasm Long continued anemia is followed by neurosis The numerous ganglia are bathed in waste-laden and irritating blood Innumerable local and distant neurasthenic conditions are manifest We have, then, as a train of evil symptoms following genital defects 1, local irritation—an infection atrium, 2, reflex irritation to the abdominal brain, where it is reorganized and sent out to the various viscera, 3, indigestion and malnutrition, 4, anemia, and 5, neurosis

In the incomplete cases of laceration the disturbance is attributed to gaping of the vulva and the consequent favoring of rectocele and cystocele This condition is followed by uterine prolapse, endometritis and metritis The patient suffers from ill defined pains while standing and walking These patients complain in a manner similar to that of those who are afflicted with enteroptosis When the lacerations become complete, not only a physical defect of control of feces and g exists but a train of mental symptoms follow co plete lacerations or serious lesi ly aff life, both and

easily fatigued, neurotic constantly, liable to exacerbation of infectious processes

One of the most unfortunate results of extensive laceration of the rectovaginal septum is diarrhea When the sphincter muscles have been so far drawn apart at the ends that they are almost a straight line, the rectum has lost all control of feces A straight sphincter is a symptom of complete laceration, the diarrhea accompanying the straight sphincter is very exhausting The amount of separation in the sphincter muscle tells the story of the degree of laceration When one can find the deep dimples in the skin, on each side of the gaping vulva, due to the cicatricial ends of the muscular bundles contracting it may be estimated that the vaginal sphincter is extremely defective and that over half of its arc is wide open Only a carefully planned operation can relieve this condition The widely gaping vulva is exposed to much trauma and consequent infectious processes The congested genitals and rectum produce excessive glandular secretion, which furnishes a culture medium not only to the pathogenic bacteria, but tends to multiply the regular residents of this locality into excessive number, and in all probability dangerous kinds, for doubtless bacteria rapidly change from one kind to another by change of food and temperature It would be strange indeed if all the scores of uterine tubular glands could long remain normal with frequent congestions and decongestions Excessive bacteria in any locality must produce their dangerous toxins, which become absorbed and carried away by the veins and lymphatics The rectal veins are known to stand in direct communication with the liver by way of the valveless portal system Hence may be observed the vicious circle established by the defective sphincter apparatus of the vagina Again, consider the innumerable reflexes which must necessarily arise from the infected, frequently congested, occasionally acute, inflammatory invasions of the genitorectal organs These reflexes arise in all degrees and conditions, and the patient almost imperceptibly passes through the stages of indigestion, malnutri- nia and neurosis Again, many of these operated on by inexperienced surgeons, t imperfect results Then a conflict as to the perineal defect being the

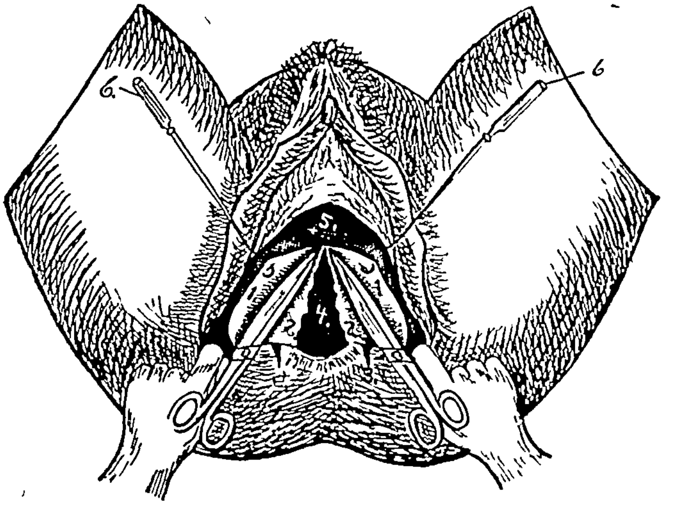

Fig 51 —(Robinson Scholer) Flap formation with the scissors at the bottom of gutter between rectal and vaginal flaps 1 1 vaginal flaps held aside by the shepherd s crooks 6 6, 2 2 rectal flaps 3 3 back cuts ' 4 rectal lumen 5 outline of cervix This represents a complete laceration high up into the rectum

cause of the trouble or whether the etiology is to be located in the nervous system, for one of the evils of today is the confounding of nervous and genital diseases After an imperfect operation on the genitals, with a consequent imperfect result, the operator is liable to throw the whole defect on the nervous system As the nervous system and the liver are the chief scapegoats of ignorance (and knavery) it is difficult to demonstrate the error It requires wisdom, knowledge and experience to discriminate between genital diseases and their consequent train of neurotic effects, and the diseases which definitely belong to the nervous system itself or to other causes than the genitals I must insist, however, that this requires more time and skill than any general surgeon or physician is able to give

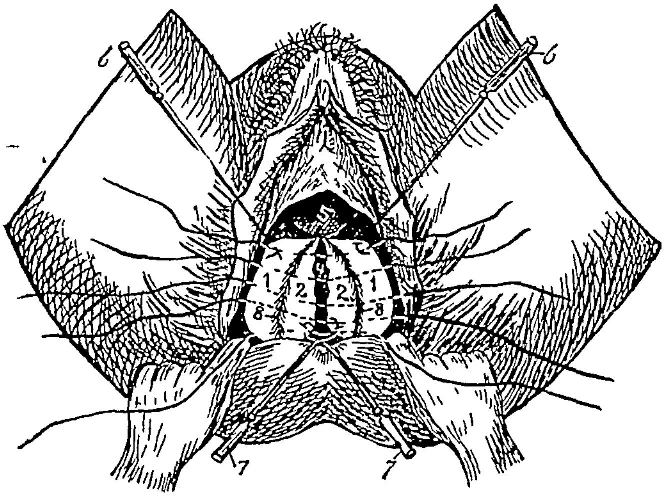

Fig 52 —(Robinson Scholer) The sutures in position in a case of laceration high up into the rectum 1 1 the vaginal flaps held aside by the shepherd's crooks 6, 6 2, 2 rectal flaps held in place by the crooks 7, 7 8, 8 points to the line or angle of junction between the rectal and vaginal flaps

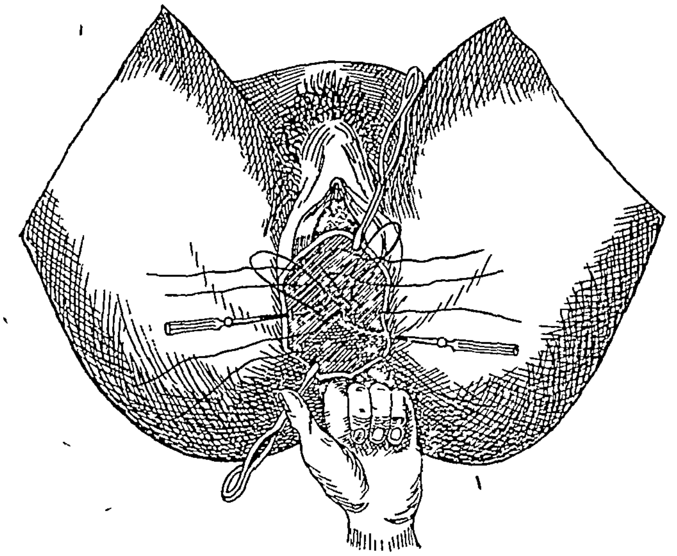

Fig 53 —(Robinson Scholer) A case not ruptured into the rectum in which the sutures are in position The sutures are threaded from the median line as seen in the cut Observe that the sutures penetrate neither skin or mucosa

Until one comprehends the practical anatomy, it is almost impossible to interpret the rational symptoms of the deficiency of the supports of the sexual organs The popular view of general physicians that the perineal body is the chief support is one illusion which I find, after considerable experience in teaching, difficult to eradicate It is the indefensible mechanical theory that the perineal body is the keystone, the cork which stops the bottle, or the wedge which plugs up the pelvic outlet Unfortunately a prominent American gynecologist at one time abetted this false theory

One of the very common diseases accompanying perineal lacerations is endometritis Little need be said to defend or explain this condition, for it is evident to all observers how the endometrium may be insulted by trauma, congestion and bacterial invasion, when unduly exposed from deficient support Excessive glandular secretion arises, leucorrhea, which may be non-infective, then pathogenic infection soon follows with its consequent train of evils

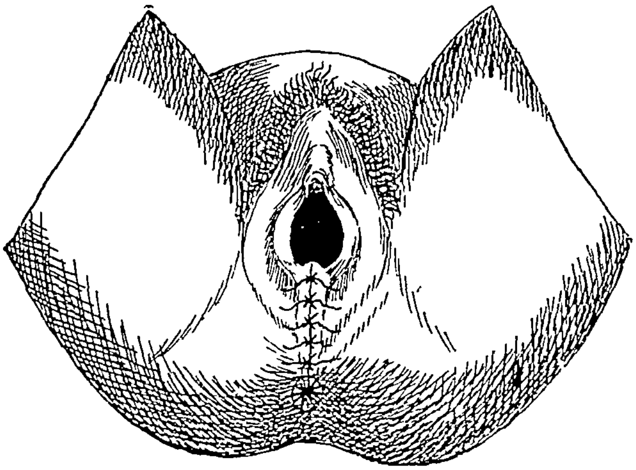

Fig 54 —(Robinson Scholer) Completed operation on an incomplete laceration Five sutures were employed

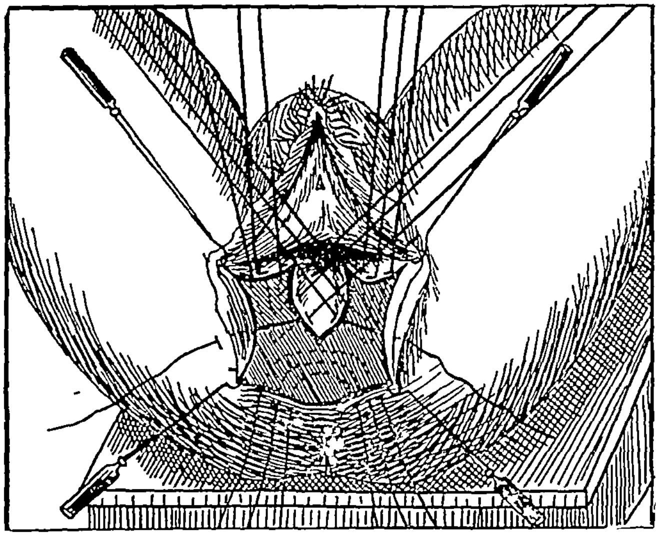

Fig 55 —(Robinson Scholer) First stage of Dr Emmet's operation, viz Denudation of the posterior vaginal wall denudation of a triangle in each sulci of the vagina, with the noted method of his peculiar suturing

This leads me to a subject of vast importance It is the metritis (subinvolution) which so frequently accompanies laceration of the perineum The general practitioner calls it subinvolution But we will call it metritis, because we believe it to be of microbic origin Be it remembered, the uterus above all organs is liable to infection, because its glands pass directly into its muscular walls It has no submucous layer or barrier to protect the muscle The intestine has a submucous muscular layer which acts like a barrier against microbe invasion But the uterus has no muscularis mucosæ It has no barrier between its glandular apparatus and its muscular apparatus, so that microbes or their products which gain the uterine glands soon gain the muscular walls of the uterus and produce metritis Hence metritis is one of the frequent accompaniments of perineal laceration, and as metritis is a very chronic disease, it is apt to continue even beyond the repair of the perineal injury

From this short view it may be observed that the rational symptoms of injuries to the pelvic floor are generally a train of evils which increase with time, and the final brunt is most apparent in the nervous system Many of the symptoms can only be accounted for by carefully noting the many cases of invisible lacerations—the relaxed pelvic floors, perineal supports and sphincter vagina apparatus—which disturbes circulation by the vessels being torn from their proper fascial beds, the veins becoming elongated, dilated, straight, and losing their normal spiral form, and the nerves being put on the stretch or traumatized

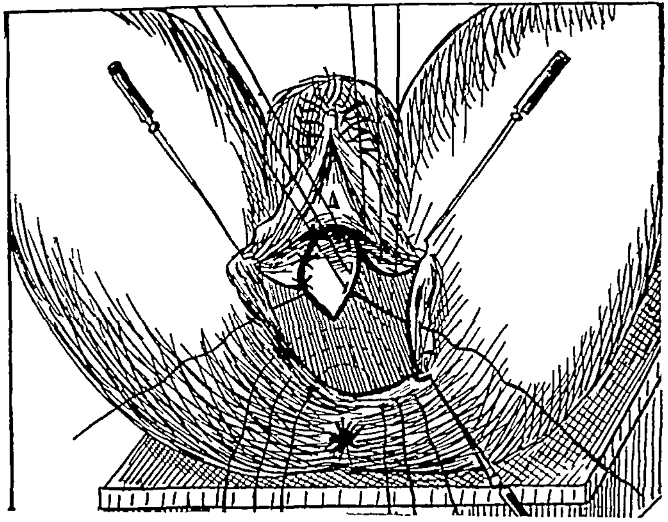

Fig 56 —(Robinson Scholer) Another stage in which the triangle in the right vaginal sulcus is closed with two sutures sutures in position

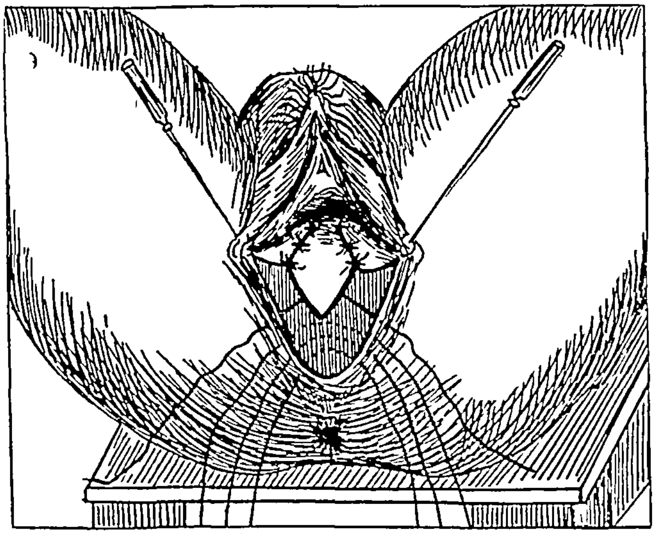

Fig 57 —(Robinson Scholer) The two denuded triangles closed by sutures the remaining sutures in situ

We thus have disturbed vascularization, congestions and decongestions of blood and lymph have also disturbed innervation from traum ed es En-
teroptosis exists and the ave are
widely exposed The supports
been overstretched by one
not resumed their norma
such patients,
cleft is flatt

broad and shallow and the anus, instead of being drawn up under the pubic arch, appears flat, exposed, and fallen back toward the coccyx The skin perineum may be much larger than normal, being overstretched The finger introduced into the vagina no more feels the rigid levator ani muscle loop, but in its stead the relaxed, overstretched, flabby tissues lying between the gap made by the separation of the levator ani fascia superior and inferior with its contained muscle in various degrees Perhaps there is no lesion more overlooked in the pelvic floor by the general practitioner than the relaxed, overstretched outlet In 1883 Emmet and Schatz first clearly announced their views in regard to relaxed pelvic outlet The very deep perineum is deficient, while the shallow, short one is the vigorous one The patient with relaxed pelvic outlet generally begins to complain of bearing-down symptoms on rising from bed some two or three weeks after labor She feels weak, unable to work or exert herself, pain in the back, general lassitude and prostration

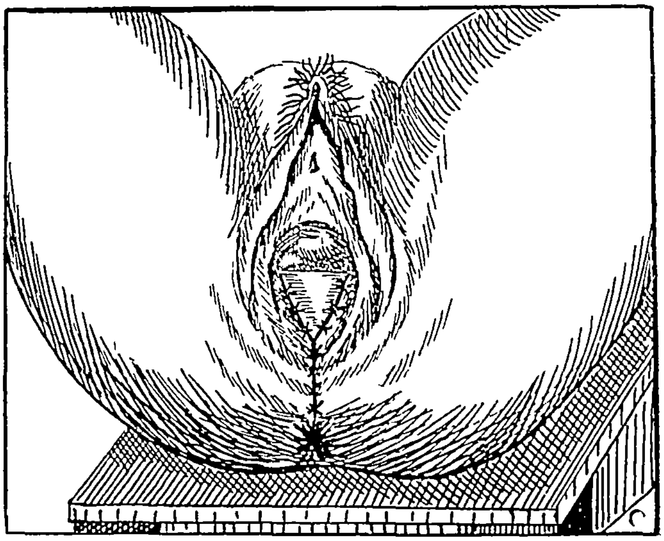

Fig 58 —(Robinson Scholer) Operation finished The Y shaped line shows the line of suturing

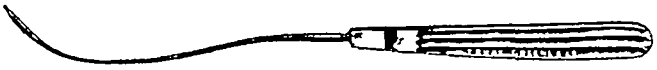

Fig 59 —Author's perineorrhaphy needle

The relaxed pelvic floor is most impressive to the operator, by examination before and after the anesthetic, when he is about to operate Before the anesthetic the pelvic outlet is held in partial tension by the remnants of the muscular and fascial supports, the loops of the levator ani muscle being irritated by the non-balance of parts being torn, the patient is constantly losing nerve force by the attempts of the reflex irritation in keeping up the tension When the patient is fully anesthetized the parts of the pelvic floor show vast relaxation and it becomes at once apparent to the hand and eye of the operator that a significant defect exists, beyond his expectation, in the sexual apparatus The perineum falls back, the anus flattens and everts, the vaginal walls roll outward, and
p a -urrow assumes a plane approximating
ks Vast changes in subcutaneous
ports have occurred, capable of
by an operation which restores
nerves to a protected sheath,
n which will insure normal
on—in short, proper nour-

ishment With such patients in the erect posture the intra-abdominal pressure is continually displacing the viscera by forcing them into and through the weakened pelvic outlet The pelvic outlet, beyond the normal floor is full of prolapsing organs which often deceive the practitioner by closing up the gap

The length of time allowed to relapse between the injury and the operation on the perineum should not be less than three months The parts do not heal well shortly after labor Old gynecologists, as Byford, recommended at least six months to elapse before the operation should be performed Perhaps four months after injury it would be fairly safe to operate The old cicatrix can not always readily be found, but by pulling on the vagina in various directions the puckering tissue about the scar will be discovered The palpating finger may also find it

The cicatrix produces new points for the attachment of the torn fibers of the levator ani muscles which may give the outlet a peculiar, irregular, puckered appearance when the muscular bundles contract from their new points of attachments The flap formation should extend beyond the cicatrices so that the ends of the muscular bundles may be included in the sutures The time for operation should be midway between the menstrual periods

In regard to the perineal body The posterior curve of the vagina must be reproduced by restoring the rectovaginal septum

A new perineal body should be restored, so that the natural backward curve of the vagina should persist, i e, normal relations should be established between the perineal center of body on the one hand and fascia on the other" The perineal body, the punctum fixum of vulvar surface relations, should be restored

In writing this essay I have derived aids and suggestions from all accessible authors and have attempted to duly credit the labors

Some suggestions were acquired in regard to drawings from the book of W J Stewart McKay

SOCIETY PROCEEDINGS

The Chicago Society of Internal Medicine

Second Regular Meeting, Sept 21, 1898

Dr John A Robison, the president, occupied the chair, and delivered the Presidential Address to an audience of 156 members and visitors After briefly outlining the object and aim of the Society, he directed attention to

A CLINICAL STUDY OF FIFTEEN CASES OF MALARIA

He referred to the various forms of organisms and what relation they bear as etiologic factors in the production of the various forms of malaria

1 There is the flagellate form of the parasite, concerning whose age and mode of production observers are not yet agreed It is seldom observed, but sometimes may be found in the blood a few hours after febrile paroxysm, or less often during the afebrile It is the small, pale, movable body, having from one to three extremely delicate, pigmented, thread like processes, which are the locomotive organs of the parasite It is generally ecto globular Some observers believe the flagellate organisms are young organisms, others claim they are not degenerate forms, and a great many authors maintain they do not exist until after the blood is exposed to the air It seems to him the claim that they are young organisms would stand best for the reason that they are provided with flagella which permit them to seek their prey — the red blood corpuscles Sakharoff and Danilewsky believe they are a separate species of organisms, since they possess a very large nucleus, while the non flagellated forms have small nuclei They are more frequently observed in the irregular forms of malaria

2 The parasite of tertian malaria The ecto globular parasites invade the red blood corpuscles, and are seen as small, pale, hyaline ameba, sometimes star or cross shaped Sometimes no pigment granules are noticed, or one may see a few scattered, peripherally placed granules Repeated observations show that the bodies have grown at the expense of their host, the pigment granules are more marked, and display very active movements At the end of forty eight hours there may be from six to twenty granules, and the blood corpuscles have lost their coloring matter and they look like thin translucent cells Segmentation now occurs, and this process precedes or accompanies the chill or fever The pigment granules become motionless and collect in the centers of the amebæ, and lines of striation stretching toward the periphery through the finely granular protoplasm cause the organism to have the appearance of a rosette The segmentation proceeds until it is divided into eighteen to twenty spheres, the shell of the corpuscle bursts, and the small, rounded hyaline bodies, each being a translucent bit of protoplasm, with a highly refractive central spot, are set free in the circulation, being doubtless the spores which develop into the plasmodia The cycle of development requires two days Two groups of tertian parasites maturing on alternate days may cause the quotidian form of the fever

3 The quartan form of parasite In the quartan form of fever the pigment granules are larger, blacker, and the ameboid movements are more sluggish Their growth does not decolorize the corpuscle to the same extent, nor do they fill the corpuscle so completely They mature in from sixty-four to seventy two hours, and, while they occupy the greater portion of the corpuscle, they are surrounded by a rim of colored stroma The segments seldom reach twelve in number, and they eventuate in small spherical or ovoid bodies The quartan organisms may mature in two groups on successive days, with one day's interval between (double quartan fever), or three groups may mature on successive days, producing a quotidian form of fever (triple quartan)

4 The estivo autumnal or irregular forms of fever According to Osler, "the early form of the estivo autumnal parasite is not unlike that of the tertian and quartan varieties, but the hyaline body is mooring like, more highly refractive, and the central part often looks shaded, as if a more solid body were enclosed within a vacuole As this form increases, the ameboid movements are well seen The pigment is in small amount, at first, in the form of one or two very dark granules at the margin of the amebæ, and the pigments never so abundant as in the tertian or quartan forms The organism rarely occupies more than one third of the corpuscle, the stroma of which is never entirely decolorized On the contrary, it often presents a peculiar brassy, green appearance, and looks shrunken or crumpled The cycle of development of this form is rarely carried out entirely in the circulating blood, but the bodies with centrally placed pigment are not uncommon The observations of Italian observers seem to show conclusively that the segmentation takes place in the spleen, the bone marrow and the internal organs The length of time of its cycle of development has not been determined Probably groups mature at varying intervals of time The fever associated with this organism is characterized by irregularity, the paroxysms are not at definite periods, and the pyrexia may be more or less continuous, with remissions In the irregular form of the fever may be found the crescents of Laveran Sometimes they are sickle shaped, oval or circular, and provided with flagella

Technique —In examining for plasmodia two methods may be used 1, the fresh unstained blood may be placed between a cover glass and a slide, 2, the blood may be dried and stained In obtaining the blood for the first method square cover slips and slides must be thoroughly cleansed, so that the blood will spread evenly and not form rouleaux, which would conceal the plasmodia if present A small drop of blood should be used The slide and cover slip should be arranged at the side of the bed so they can be handled without touching the surface of the glass The ear is cleansed with water and alcohol, allowed to dry, and then punctured The cover slip is touched to the apex of the blood drop and quickly dropped upon the slide, when the blood will be quickly spread and may be examined with a one twelfth oil immersion lens In some cases it may be necessary to use the dried specimens, if a microscope is not accessible, the weather is cold, or you wish to confirm your diagnosis with the fresh blood examination

To obtain the blood for staining use two cover slips and touch the apex of the blood drop with one, and drop it on the other cover slip, and after the blood has stopped spreading, gently separate them by sliding the one off the other in the plane of their surfaces These preparations are then allowed to dry in the air and are afterward fixed by immersing for a period of one to twenty four hours in equal parts of alcohol and ether The simplest form for staining the dried slips is with eosin and methylen blue, the eosin staining the red blood corpuscles, and the methylen blue staining the plasmodium The specimen should then be melted in balsam and can be kept indefinitely

In examining the fresh specimens certain conditions are apt to confuse one, if inexperienced These conditions are 1, conditions brought about by the refraction of light, which gives the appearance of a hyaline body regularly and sharply defined, 2, vacuolated red blood corpuscles, 3, crenated red blood corpuscles In the first case, there are usually in the field a larger number of the seeming hyaline bodies than we would hope to find of plasmodia By focusing with the fine adjustment it will be found that these bodies increase and diminish in size, whereas the plasmodium does not vary in size, but grows dimmer and becomes clearer as the red blood corpuscle is found in or out of the focus The outine of the plasmodium is usually rather indistinct and seems to merge into the protoplasm of the corpuscle, being situated in most cases between the center and the periphery of the corpuscle, and not in the center, as is the case with the so called refractive bodies In the second of these conditions the points of differentiation just mentioned will serve to affirm or exclude the presence of the corpuscle, while in the case of the crenated corpuscles it will be found that the corpuscle has a jagged edge and that the above stated features of the plasmodium can not apply

Dr Robison then details fifteen cases of malaria, two of which were sporadic, and the other thirteen were epidemic and occurred among the returned soldiers of the late war

Case 1 —W G , age 38, single, farmer, German descent, lives north of Grossdale on the banks of the Salt Creek, where two cases of malaria have recently developed He worked in the fields harvesting, but Friday, September 2, felt weak and sweat profusely Sunday, September 4, was compelled to remain in bed on account of extreme weakness and vomiting Tuesday morning, at 6 A M , patient had a chill lasting twenty minutes, followed by high fever and sweating Thursday at 1 A M , chill lasted an hour, fever and sweating, accompanied by delirium Entered Presbyterian Hospital, September 8 Spleen palpable on the 9th Blood examination on the 9th at 3 P M revealed the presence of a crescent, endoglobular and octoglobular plasmodia The patient was discharged on the 14th, not having had a chill nor a temperature above normal, nor had he taken any quinin It was a case where the infection was resisted without the use of quinin

Case 2 —D P , age 18, male, single, Greek, lives in Chicago Four months in America Never was ill before Tuesday, September 6, had a severe chill at 2 P M , accompanied by headache backache and anorexia Entered the hospital, September 9 at 4 P M , temperature 104 2 degrees F , pulse 100 At 3 A M , September 10, the patient was restless and delirious At 9 A.M the blood examination revealed the presence of crescents This patient evidently is one of those who receive their infection in one country, and it is develbped later in another, as he doubtless was infected in Italy, and the infection did not develop until he lived in Chicago a while Received Warburg's Tincture Discharged cured September 20

SOLDIERS

Case 3 —Tertian fever J D , age 34, single, Company M, First Illinois V I Had yellow fever in July at Siboney Was taken ill Monday, September 12, at 10 A M with a chill lasting two hours, very severe and followed by fever and sweating Wednesday, had a second at 10 A M Was admitted to the hospital, Thursday at 4 P M At 5 P M temperature was 104 degrees F Friday at 4 P M had a chill lasting half an hour The spleen was palpable At 8 15 A M Friday, a blood examination revealed a few endoglobular plasmodia, with scant pigment granules sluggishly motile The patient responded promptly to quinin

Case 4 —H J , age 25, single, Company K, First Illinois V I Gives history of two complaints 1, Six weeks ago, while in Cuba, had chills and fever which yielded to quinin in four days Two weeks later had an attack lasting three days, and two weeks later was ill two days That attack commenced with one paroxysm of chills and fever, no recurrence of the same taking place until the effect of the quinin wore away 2. Four weeks previous to entering the hospital he was attacked with severe pains in the bowels, with looseness of the bowels Has averaged about twelve stools per day ever since The stools are dark brown unformed, slimy, 2 a light gray

with blood, 3, a light brown, 4, white and like

few days, and at the present time are returning

appearance The spleen is slightly en

ination at 11 A M 14,

large endoglobular plasmodium, the blood corpuscle decolorized with pigment granules having a sluggish movement September 15, at 3 P M , he had a chill lasting twenty minutes, and the temperature after the chill was 104 degrees F A similar occurrence took place at 3 P M on the 16th There has been no chill or fever since the exhibition of quinin This is undoubtedly a double tertian

Case 5 —S J , age 20 single, Company L, First Illinois V. I Taken ill August 30 with chills just before leaving Cuba Had chills every night until after treatment at a hospital in Brooklyn One week previous to entrance into hospital, had been walking about, although very weak Had slight chills about 5 P M , September 18, 19 and 20, followed by a temperature of 104 degrees F September 20, at 1 15 P M a blood examination revealed, 1, numerous small endoglobular plasmodia with small fine, very active pigment granules, and 2, large endoglobular plasmodia with coarse, sluggish granules This apparently is a case of tertian and quartan malaria, the paroxysms developing daily It would be natural to suppose it is a case of double tertian, or triple quartan, were it not for the character of the plasmodia found

Case 6 —A E H , age 32, single, Company H, First Illinois V I Had yellow fever in Siboney early in August Sunday, at 8 P M , September 10, had a chill, and has had one every day since Was admitted to the hospital September 15, and had a chill at noon lasting half an hour The chills recurred September 16 and 17 Ehrlich's reaction was found September 18, a blood examination at 8 A M revealed very small endoglobular plasmodia, with fine pigment granules One very small ectoglobular body with very fine, scarcely discernible, pigment granules There has been no chill since the 18th, after placing the patient on quinin It is undoubtedly a case of double tertian

Case 7 —J F , age 21, single, Company F, First Illinois V I Early in August he found himself gradually losing strength One day went to bed, and the next day at noon had a chill The chills recurred at that hour for four days Resumed work in ten days, and has been able to be up and around ever since, until September 12, when he had a prolonged chill at night Entered hospital, September 13 The spleen was palpable Has had no chill since September 14, at 11 30 A M , the blood examination revealed endoglobular plasmodia, the corpuscular protoplasm decolorized, and of hyaline appearance Fine pigment granules, with active motility The corpuscle was enlarged one and one sixth, the plasmodium occupying four fifths of the corpuscle, and well outlined Double tertian

Case 8 —J C , age 33, single Company H, First Illinois V I Had typhoid fever eleven and four years ago Was taken ill with a chill September 17, lasting from 3 A M to 11 A M , followed by very little fever or sweating, and the patient has been having daily chills of differing severity at various times of the day, sometimes in the morning, and sometimes at night Entered hospital, September 18 Spleen palpable Blood examination at 2 P M revealed an ectoglobular body, one-third of the diameter of a red blood corpuscle, with six sluggishly motile pigment granules, and a crescentic, endoglobular body, with small, fine, sluggish pigment granules This is apparently a case of triple quartan Quinin has proven efficacious

Case 9 —C C K , age 21, single Second U S Cav While in Cuba suffered from chills and fever of an irregular type Had not felt well since landing in New York Had a chill severe in character, lasting one hour, at 7 A M , September 11 Had a second chill September 12, at 1 P M Entered hospital, September 15 Temperature at 11 P M was 103 4 degrees F September 16, at same hour, was covered with profuse cold perspiration A small and young endoglobular parasite, which has undergone fusion, one segment containing motile pigment granules September 17, at 4 P M , the temperature fell to 96 6 degrees F , and it has remained subnormal reaching 98 degrees only once since He has aching pains in the legs, but otherwise feels very well This case belongs essentially to the asthenic and adynamic form of the fever, prooably of the tertian variety

Case 10 —J W M , age 25, single First Illinois V I This patient was formerly a private patient of mine, whom I had sent to Colorado for incipient tuberculosis He remained there all winter, and when the war broke out, he came home and enlisted in the army Was taken ill in Cuba about the middle of August with dysentery and fever Had no chills, but was weak and dizzy Two weeks after boarded the transport *New York*

the sick contin with weakness, diarrhea and

but h arrived in Montauk, August

for days, all symptoms

eared Arrived in Chi

of severe suffering on

the train, being extremely weak and feverish Entered the hospital September 6, at 1 P M Temperature 104 degrees F , pulse 100 Respiration 28 Some abdominal tenderness Face flushed, and the pulse small and quick The spleen was palpable The temperature followed the course as shown in the chart until, at 8 P M of the 8th instant, it fell to 98 2 degrees F , after a profuse perspiration The temperature then gradually rose to 103 4 degrees F , the next afternoon, and remitted and rose again to 104 degrees, the second afternoon, and dropped to 94 4 degrees F the third evening, after a profuse perspiration This case had the facies of a typhoid, and there was a suspicion of a renewal of tuberculosis in some form, and yet the behavior of the fever was more like a case of malaria Consequently, at 2 P M , September 10, an examination of the blood revealed hyaline bodies of irregular shape, irregularly pigmented with large, coarse granules It was diagnosed as the quartan form of malaria The subsequent course of the disease demonstrated that it required about seventy two hours for the complete cycle to take place This case teaches the value of a blood examination If the circumstances under which the patient was taken ill had not given rise to a suspicion of malaria, it might not have impressed us a necessity to examine the blood

Case 11 —G W S , age 23, single Sergeant First Illinois V I Had malaria in fall of 1896, ill two weeks Recurrence in February, 1897, continuing until October Is an athlete Was taken with fever September 12, but prior to the fever had been having dysentery for one week Physical state fairly good, but spleen palpable The physician who sent him to the hospital diagnosticated the case as typhoid fever On admission, the temperature was 103 2 degrees F , pulse 102, respirations 20 What appeared to be one rose spot was found on the abdomen Ehrlich's reaction was demonstrated September 17, the temperature ranged from 101 4 degrees F September 19, at 8 A M , it was 99 6 degrees, and at 8 P M , was 100 2 degrees September 19, at 8 A M , it was 98 6 degrees, and has not been above normal since September 19, at 11 A M , the blood revealed the presence of a large endoglobular plasmodium, with coarse pigment granules, very motile, also crescents with sluggishly motile granules

Case 12 —V B , age 30, First Illinois Cavalry Was taken ill at Chickamauga, and the case was diagnosticated as typhoid fever Had frequent bowel movements, abdominal tenderness and was delirious the greater part of the time Was admitted to the hospital September 4 Had a daily exacerbation of temperature at 4 P M , reaching 103 or 104 degrees, No chills September 4 his blood revealed a crescentic body, and on September 14 a small endoglobular body was observed, with sluggish pigment granules Ehrlich's reaction was negative This case did not present the symptoms of typhoid

Cases 13, 14 and 15, gave unimportant histories In case 13 endoglobular plasmodia were found, with very motile granules, in case 14, endoglobular bodies, with sluggish granules, and in case 15, endoglobular and hyaline bodies

CONCLUSIONS

1 The study of these cases has led me to the conclusion that it is the duty of every physician to examine the blood of every patient in which there is an irregular temperature, where the physical signs do not indicate the diagnosis

2 That Ehrlich's test can not be regarded indicative of typhoid fever, measles, or tuberculosis, as it is present in malaria

3 That it is wise to corroborate the fresh blood tests with the stained specimens to prevent the confusion of a vacuole with a hyaline body This point has already been referred to in a previous part of the paper

4 While typhoid fever may run concurrently with malaria, the frequency with which this occurs is not great

5 In some of the irregular forms of the disease we have found that it does not yield readily to quinin

6 In Case 13 there was an idiosyncrasy as to quinin it producing, in small doses, itching of the dody, roaring in the ears, and gastric pains Thirty minim doses of dilute hydrobromic acid were given every four hours for twenty four hours, before the administration of quinin, when ten grain doses could be taken without any discomfort, and it broke up the paroxysms

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American Public Health Association

Twenty sixth Annual Meeting, held in Ottawa, Ontario, Sept 27-30, 1898

(*Concluded from page 928*)

THURSDAY, SEPTEMBER 29—MORNING SESSION

The association was called to order at 10 o'clock, Dr Benjamin Lee, first vice president in the chair

The secretary reported, on behalf of the executive committee, the resolution of Dr Wingate of Milwaukee, that a special committee of five be appointed for the purpose of drafting a definition of the word "epidemic," with a recommendation that its report be adopted, and it was thereupon adopted Respecting the resolution of Dr Suiter of Herkimer, N Y , to procure the enactment of laws preventing the sale of long rubber tube nursing-bottles, the executive committee reported that it considered such proposed action inexpedient, and recommended that the resolution be not passed, in which the association concurred

Two candidates were proposed for membership and elected by the association

Dr FRANKLIN W WRIGHT of New Haven, Conn , offered a resolution which was referred to the executive committee, creating a special committee of five members of whom the president, secretary and treasurer shall be three, to consider the feasibility of issuing instead of an annual volume of transactions a monthly periodical devoted to sanitary science

Dr HENRY D HOLTON of Brattleboro, Vt , treasurer, presented his annual report, showing a balance of cash on hand of $1 223 03 The report was referred to an auditing committee, vice president Lee naming as sub committee Drs Irving A Watson of Concord, N H , Peter H Bryce of Toronto, Ont , and Dr Franklin W Wright of New Haven, Conn

The first paper on the program for the day was one by Dr MANUEL SEPTIEN of Queretaro, Mexico, entitled

COMPULSORY VACCINATION OUGHT TO BE IMPOSED AS A PARAMOUNT NECESSITY,

and at the request of the writer it was read by Dr Cabara of Fall River, Mass

Dr SEPTIEN regretted the apathy that seemed to prevail on this subject It is just one century, he said, since the immortal Jenner announced to the world the most important discovery registered in the annals of medicine, that which undoubtedly has saved the greatest number of lives Smallpox was in centuries past the most terrible scourge that afflicted the human race It alone accounted for 10 per cent of the total mortality, leaving on the victims it could not carry away the marks of its passage stamped, in an indelible manner, on the whole surface of their bodies But neither the people nor the governments have known how to take advantage of the immense good which vaccine is capable of producing Smallpox ought to have disappeared long ago from all civilized countries, and everybody ought to carry on their arms, as a shield, those everlasting stigmas which vaccination leaves, as a seal printed by the solicitude and paternal care of the enlightened governments, whose lot it is to watch and care for the lives and health of the people, as they are the greatest blessings that man can enjoy here on earth Its practice, however, has been and is still repulsed in the last years of this century of light, even by the peoples most advanced in civilization In England itself, who would believe it ! there are societies, such as the "Anti Vaccination Society," "Peculiar People" and others, who have for their object the opposing of vaccination In this very country, Lower Canada, a great popular movement was started a few years ago, headed by several distinguished medical men, rejecting vaccination The occurrence of several serious cases of vaccinal ulcerations, probably of syphilitic origin, was the cause of this agitation, which had for consequence such a lamentable end Compulsory vaccination could not be carried out from the year 1876, till in 1884 and 1885 such a strong epidemic broke out that in nine months, in the city of Montreal alone, thousands were attacked by smallpox, and causing the death of 3500 persons in nine months Probably this is one of the most notable examples, in these latter years, of the rapid spread of smallpox The ground was already prepared, and the only thing wanting was the sowing of the seed , a Pullman car conductor arriving from Chicago, where he had contracted the disease, was the vehicle of infection Smallpox, with rare exceptions, only attacks those who have not been vaccinated Nor in the most severe epidemics had it ever been seen that the doctors, nurses, or the persons in attendance on the sick had been infected, provided they had been well vaccinated Let us hope that the disease of smallpox will disappear very soon and forever , that which may be considered the most terrible of diseases, because it is the most mortiferous, cruel, and the most loathsome The unfortunate that is not killed by it, is left with the face and the body covered with the most horrible scars , and in many cases it destroys the sight and even the hearing He proposed a petition to the three governments represented in this association to provide more energetic laws than existing ones, making vaccination obligatory and inflicting severe penalties for their evasion

Dr J C SHRADER of Iowa City, Iowa, second vice president of the association, said that in Iowa all children, before admission to the public schools, were required to present marks of vaccination It is held that the State can not pass a law compelling an individual to submit to the operation, as trenching upon the liberty of the person, but the board claims it has the right to establish this rule, and it has been in practice for years

Dr CURTIS of Albany, N Y , said that every member of this Association knows the name of ELISHA HARRIS and remembers his earnest interest in this matter, and that one of his efforts was directed toward obtaining virus from the Jennerian Society with the view of antagonizing the charge as to the danger of inflicting other grievous injury from the use of impure virus

Dr PATTERSON of Winnipeg, Man , doubted whether the courts of any civilized nation will uphold compulsory legislation Vaccination is a disease and it is doubtful whether you have a right to inflict a disease upon an unwilling person School boards, however, can adopt the regulation that children, who do not present evidences of protection against smallpox should not be admitted

Dr GEHRMANN of Chicago insisted that the results of Jennerian-virus can be obtained by modern improved methods—glycerized lymph destroys foreign bacteria and the resultant vesicle is a true "pearl on on the roseleaf "

Dr JONES of Baltimore said that in July last two cases of smallpox were brought into that city from Germany Their companions were vaccinated and developed such bad arms that the tubes used were carefully examined, and in these and many other points large numbers of pus corpuscles were discovered

The report of the committee on "Demography and Vital Statistics in their Sanitary Relation" was then presented by the chairman, Dr CRESSY L WILBUR of Lansing, Mich , Chief of the Division of Vital Statistics of the Department of State

The resolutions embodied in the Committee's report having already been adopted on the recommendation of the executive committee, to whom they had been referred, the committee was by vote continued

Dr JOSE RAMIREZ, general secretary of the Superior Board of Health of the Republic of Mexico then read a paper entitled

OUGHT WE TO REOPEN THE LEPER ASYLUMS?

"Leprosy is still," he said, "scattered throughout the world As its origin is not of a telluric character, we can understand how it invades climates of widely different character It is a disease exclusively confined to man, of a bacterian character, contagious, and one that respects no race whatever " He then alluded to the disappearance and reappearance of the disease in various countries, making the disease serve as a thermometer to indicate the degree of hygiene of different people "These facts lead us to a comforting conclusion That leprosy, an incurable disease, can be suppressed in civilized countries by means that are within the reach of the sanitary authorities An empiric observation of some centuries has perfectly demonstrated the contagious character of leprosy (still denied by some physicians), and the arbitrary measures that up to the middle ages were employed to prevent this fearful contagion proved by their positive results that these observations were correct—that is to say That the isolation of the lepers was the most certain method of preventing the appearance of fresh cases " The disease, the doctor thinks, is not hereditary The long accepted theory that children inherit the disease from contaminated parents has been disproved, and this fact holds out greater hope for the future, besides allowing sanitary precautions to be softened, so that in due time measures may be adopted for preventing contagion It was a fortunate fact that in the greater part of South America leprosy had gradually disappeared "Leprosy has very rarely been found in Canada, although well established cases have been seen In the United States there are a few small foci, which are especially found in Louisiana, Texas, California, Minnesota and Oregon, but the recent annexation of the Sandwich Islands places the nation in an especial condition to at once undertake measures of defence against that immense focus of leprosy which is so well known and is so dangerous

In Mexico we also have leprosy scattered in different States "We, therefore, find that Canada, on account of the British colonies of India, the United States, on account of the foci in its own territory and the recent annexation of the Sandwich Islands, as well as Mexico on account of the numerous foci it contains, are three nations which ought to come to an agreement with the view to taking steps against the propagation and for the establishment of uniform measures of prevention as far as is permitted by the special conditions of each country The character of these measures is a subject that undoubtedly will give rise to a great deal of discussion At the end of the century we can not and ought not to put into practice the ostracism to which lepers were formerly condemned Now, when we know that contagion is something tangible and not a subtle gas or impalpable emanation, now when we have at our disposal means for preventing its propation, now is the time for us to study the most adequate means in accordance with our knowledge, to fight the disease with greater success There can be no doubt that these humane sentiments inspired the governments that convened the international conference for the study of leprosy, which met in Berlin during the year 1897 This conference, attended by the most competent specialists of the world, and starting from the principle of the incurable character of leprosy, passed resolutions directed to the prevention of the propagation of the disease."

The deductions are as follows

1 In countries where leprosy forms foci, or has great extension, isolation furnishes the best means of preventing the spread of the disease

2 The system of obligatory notification, observation and isolation, as carried out in Norway, is recommended to all nations with local self government and a sufficient number of physicians

3 It must be left to the administrative authorities after consultation with the medical authorities, to take such special measures as are applicable to the special social conditions of the districts

Dr HENRY M BRACKEN of Minneapolis, secretary and executive officer of the State Board of Health of Minnesota, presented and read a paper on the same subject entitled

LEPROSY IN MINNESOTA AND THE NORTHWEST

He questioned the accuracy of the statements in Allbert's System of Medicine respecting the Norwegian leper of Minnesota, Wisconsin and Dakota, and said we have knowledge of fifty one lepers having resided in Minnesota, seventeen of whom had died before 1890 Twenty one is probably the highest number of lepers known to have been living in this State in any one year (1893) At present thirteen are known to be living there Dr Bracken drew special attention to a few facts emphasized by his tables and records

1 The impression that leprous immigrants from the Scandinavian peninsula are all from Norway is a wrong one Five of eleven recorded in 1897–8 were from Sweden

2 The feeling that we can quarantine against lepers by watching immigrants is an unsafe one The family history of all immigrants from a country where leprosy prevails should be secured before they are allowed to embark for America, and no member of a leprous family should be permitted to land upon our shores

3 It appears that the conditions antagonistic to the spread of leprosy are also opposed to sterility, as borne out by the families of our lepers who have children, as shown by the following numbers five, five, six, six, four, six, four, five, eight

4 It is possible for leprosy to die out in certain favored sections, as Minnesota, without segregation, provided the importation of lepers is discontinued

5 Even in Minnesota one has but to visit lepers to feel that segregation should be insisted upon in all cases Entering a filthy house and seeing a leprous mother, careless in her habits, it is evident the children are not safe

6 Segregation in single States is not practicable, since it would only drive lepers from States enforcing it to those not doing so

7 A federal home should be provided for these unfortunates where they could be cared for more economically and satisfactorily than through any State's provisions

8 In spite of all precautions there will be some leprous individuals in this part of the world for many years to come

9 The Scandinavian peninsula does not furnish all the leprous individuals found in the United States

The discussion on the papers of Drs Ramierez and Bracken was very animated Dr Henry B Horlbeck, health officer of Charleston, S C , urged the establishment of a Federal leper home on one of the islands on the southern Atlantic coast of the United States

Dr WILKINSON of New Orleans, said that the State of Louisiana had already rented a tract of land in that State and established a leper home, admission to which was not made compulsory, but where they went willingly They cultivated the land, so that the home was almost self supporting The leper wants occupation He did not think the Atlantic coast islands the preferable site on account of the gales to which they were subject.

M W BOARDMAN of Ottawa of the Department of Agriculture, described the Dominion Government's Lazaretto at Tracadie, N B , where he said there were a year ago twenty inmates, sixteen of these males, the youngest eleven and the oldest sixty one Four are in the early stage, ten were advanced, and six far toward the end There were nine deaths in the year, all having been enfeebled by *grippe* Eight new cases have been admitted, four from Manitoba All, including the Icelandic parties, seem surprisingly contented There is seldom any difficulty in the absence of a law enforcing segregation in removing those affected When a man is declared leprous by the inspector of leprosy, his neighbors and those giving employment shun him, and he is glad to avail himself of the comforts of the leper's home The Lazaretto at Tracadie is fulfilling its object, that of segregation, in the most satisfactory manner

Dr Lee of Philadelphia said that of the two plans, isolation recommended by the author of the first paper, and segregation by the second, he was decidedly of the opinion that segregation was the proper course His opinion was concurred in by Dr Burroughs of Abbeville, N C , Dr Gibson of Iowa and Dr Patterson of Manitoba

Dr Jones of Baltimore instanced the single leper, who is so great a trouble and expense to the health office of that city, that it illustrates the necessity for the national government to establish a home where similar cases can be segregated

Dr Durgin of Boston said that a leper is so dreaded, and the facilities for their care so lacking, that cases are hidden away as long as possible He has one case who requires a special nurse and all the paraphernalia of a hospital, who ought properly to be in some home

Dr Horlbeck of Charleston, S C , offered a resolution, which was referred to the executive committee, that the American Public Health Association call the attention of the government to the presence of leprosy in the country, and urge the necessity of establishing a home where sufferers from this disease can be segregated and given proper care

Mr Crosby Gray, health officer of Pittsburg, Pa , related the case of a native Pittsburger, who contracted leprosy in Para, Brazil, ten years ago, and finally returned to his home sick He entered a hospital, where the case was diagnosed as leprosy and he was surreptitiously removed He is now in a separate building in the hospital grounds, under the care of a nurse at two and a half dollars a day, making his maintenance rather an expensive luxury

Dr George H Rohe, former health officer of Baltimore, Md , deprecated the sanitary shrieking and hysterics excited by this disease, and said he would just as soon treat a case of it in a general hospital as any other In fact, it is less dangerous than syphilis Nevertheless, he believed it would be wise to have a home established where the leprous could be comfortably domiciled and properly cared for

Dr Breña of Zacatecas, Mexico, said if this resolution accomplishes its purpose, it will alone be sufficient to justify this meeting He would rather die of diphtheria than live neglected like a leper

The report of the committee on Sanitation, with Special Reference to Drainage, Plumbing and Ventilation of Public and Private Buildings, was presented by the chairman, Mr J W Hughes of Montreal

Thursday, September 29—Afternoon Session

The Advisory Council convened at 2 p m at the Parliament Buildings Thirty three members were present, representing as many different States and Provinces—twenty two American, four Canadian and seven Mexican—the President of the Association, Prof Charles A Lindsley, being ex officio chairman The council proceeded to nominate officers for the ensuing year and select the place of the twenty seventh annual meeting in 1899 Invitations to hold the meeting were presented from Minneapolis, Minn, Asheville, N C , New Orleans, La , and Chicago, Ill The fact that this was the third time the association had been invited to Minneapolis determined the choice of the council

The afternoon session of the association was called to order at 3 p m , the first vice president, Dr Benjamin Lee of Philadelphia in the chair

Mr J W Hughes of Montreal read the first paper, entitled

THE INTERCEPTING TRAP IN PRIVATE SEWERS,

supplemental to his committee report, and which adjournment for luncheon prevented being read therewith He unhesitatingly condemns the fitting of the intercepting trap in private sewers 'Minute investigation has "shown that when a main intercepting trap was used that it not only modified the speed and partly obstructed the flow of sewage, but it prevented any of the air carried down by the soil and other waste water pipes from discharging into the street sewer, where its areating functions are so necessary to commence the purification of the sewage in the drains and assisting in preventing sewer gases generating in the sewers " It has also been shown "that when the main intercepting trap is omitted there is a superior and self cleansing flow of sewage, and that large volumes of air pass forward to the street sewer, creating a healthy atmosphere and circulation of air down the soil pipe, through which the fluid is passing, and up other soil pipes that are at the time standing idle " Mr Hughes said that his observation had led him to believe that in houses in which there was an absence of sewer pipes having obstructing traps there was freedom from odors and diseases that could be traced to sewer gas poisoning, while on the other hand those cities which had adopted the principle of interception traps were often quite the reverse, and of disease a great deal was found among the inhabitants who happened to live in the modern built houses, where the obstruction system had been installed , "and this, in spite of the fact that the same towns often spend large sums of money in flushing the drains and artificially ventilating the street sewers, a thing which is never necessary if the sewers are laid down properly and the right unobstructed system is adopted

Dr S H Durgin, health officer of Boston, Mass , contended that bad gas fittings are more dangerous to health than bad plumbing He said that better regulations are needed to insure the proper fittings to prevent the escape of illuminating gas He claimed that there is no scientific basis for considering sewer gas an active poison or a serious source of danger to human life On the other hand, he said illuminating gas contains a most active and deadly poison No deaths are reported as resulting from sewer gas poison, but many are reported as caused by illuminating gas In the last five years, 169 deaths from it have occurred in Boston He said the medical profession believed that many deaths were caused by slow poison from illuminating gas, but they were not so entered in the public records Health officers, he insisted, should pay as much attention and teach the danger from coal and illuminating gases circulating in the atmosphere of houses as they do the danger of the escape of sewer gas In 1897 an act of the legislature of Massachusetts was obtained which requires all persons who desire to engage in or work in the business of gas fitting in the city of Boston, either as an employer or journeyman, to be examined by a board established for that purpose, and if found to be competent to receive a license as a master or journeyman gas fitter The act authorized the board of health and building commissioner to make and enforce regulations for all materials used and work performed in gas piping and gas fitting, provided for the appointment of a corps of inspectors, who examine for approval all new work in construction and repairs, authorizes the board of health to inspect the gas fixtures and appliances in any building, and to make such requirements relating thereto as it deems the public health requires, and the owner of such building must comply with such requirements

As a result of an investigation, it was found that 89 per cent of Boston's houses showed from two to eleven leaks in each house Out of 153 houses examined 137 had defective pipes, and only 16 were found absolutely free from defects

The discussion was further participated in by Dr Chapin of Rhode Island, who inquired if any deaths were positively known to be caused by leaking gas pipes, by Dr Schwartz, secretary of the State Board of Health of Rhode Island, by Medical Director Gihon, U S N , who asked Mr Hughes if he believed that gas leakage could ever be attributed to fire holes in old gas pipes concealed between floors and ceilings or inside walls to which Mr Hughes replied that in thirty years' experience he had never known an instance of perforated pipes, but that leakage was always from imperfect connections, by Dr Wright of Connecticut, by Dr Woodward of Washington, D C , and by Dr Mitchell of New Jersey

Dr F X Valade, chief analyst, of Ottawa, Ont , read a paper on

THE ADMINISTRATION OF THE ADULTERATION ACT IN CANADA

He reviewed the Dominion act in regard to adulterated foods, etc , and said that the analytical department is now in good working order Each district has its analyst and the analysts are supplied with samples of food products by food inspectors The samples are analyzed and the results with the names of the persons from whom they are obtained announced He spoke of the adulterations of milk and said that grave results followed the adulteration of this staple article of food Lead poisoning results, he said, from the use of lead in the manufacture of house utensils, and in tins used to preserve foods Rouge is often adulterated with lead, and as it is in a condition to be easily assimilated, lead palsy results from the use of the rouge

He considered the combination rubber and tin stoppers used in bottles containing carbonated waters most dangerous The most dangerous and shameful adulterations are the following Coffee is adulterated by the process of washing, coloring and drying off in centrifugal machines with sawdust, the furrows of the berries become filled with wood powder, making them a fine white Weak milk is richly colored with annatto, saffron, turmeric and marigold flowers Saffron is adulterated with coal tar Coal tar is adulterated with 75 per cent of sodium chlorid, and here the chain ends, for salt is too cheap to require adulteration Cayenne is sometimes too hot, red ochre, venetian red or brick dust corrects that, and a little salt to make it tasty completes the trick Honey and cocoa are adulterated, oleomargarin is palmed off after being colored with azo dyes and orange red Musk deer sacs are often opened and filled with stones, bits of metal and brown earth

Dr Juan Breña of Zacatecas, Mexico, presented "Rough Notes on the Etiology of Typhus Fever" It was an admirable and exhaustive inquiry into the subject, emphasizing the value of sanitary considerations in preventing the development and spread of this disease As the individual who cultivates cleanliness of person and dress, tranquillity of mind and, in a word, devotion to the Goddess Hygeia, bears within himself a shield which protects him to a certain extent from infection, so do collective bodies of individuals who enjoy air, light, abundance of water, a fair amount of sunshine, good drainage etc, represent ground but little fertile for the development of typhus It would be well if we could accept the theory which attributes the generation of that fever which from time to time plunges us, especially in Mexico, into mourning to the stagnation of organic matter in a state of putrefaction or to that train of misfortunes following on poverty"

The report of the committee on

CAR SANITATION

was presented by the chairman, Prof S H Woodbridge of Boston, Mass, which was read by Dr J N Hurty of Indiana Professor Woodbridge's report attracted the closest attention of the members for its admirable presentation of the subject of heating and ventilation of railway cars, and was an unusually acceptable communication, as the information given was in effect the record of a victory won by this association through this committee after a number of years' work, in inducing several of the big railroads in the United States to adopt sanitary arrangements in the running of their cars Letters from various railroad officials were given, stating their intention to reconstruct all their cars so that cleanliness would be a most important feature The author referred to sanitary precautions already adopted by the railroads in Indiana, where the interiors are so constructed as to prevent as much as possible dust lying in the spaces in the cars He outlined two systems of ventilation in use in two United States railroads In the Pennsylvania Railway system of ventilation of cars, air is drawn from outside the car through ducts, is then passed over steam radiators between the floors and then introduced into the car under the seats This avoids warming over and over the dead air in the car The bad air goes out through openings in the roof The Big Four Railway system of car ventilation is to draw out the bad air from near the floor through ducts between windows in the walls of the car Pure air is introduced from outside by ducts with filters at the ends of the coaches This pure air is warmed as it enters by being passed over steam pipes The Big Four railway officially promises to hereafter construct all passenger cars according to the latest sanitary requirements The thorough system of cleaning and disinfection of cars by the Big Four was warmly approved by the writer

Dr Gregorio Mendizabal of the City of Mexico read a paper "On Diseases of the Skin and of the Hairy Scalp, Which are Commonly Transmitted by Contagion at Schools, Ways of Preventing It" After paying tribute to the benefits that mankind has already received through following the wise councils of hygiene, the author suggested, respecting the prevention of communicable dermatosis, that medical inspectors for schools should be appointed and children be required to furnish clean bills of health before they are admitted to schools Inspection should be extended to private schools The parents of poorer children should be furnished with remedies to cure their diseased children The diseases he had found most frequently are psoriasis, scurf, tricophicies, fabus all shown to be transmissible and repugnant and dirty, although not fatal

The remainder of the afternoon and up to a late hour was entirely occupied with the subject of "Disinfection and Disinfectants," beginning with a preliminary report of the Committee on Disinfectants by its chairman, Prof Franklin C Robinson of Bowdoin College, Brunswick, Me, followed by papers on "Methods of Testing Disinfectants," by Dr Wyatt Johnson, Montreal, Dr F G Novy, Lansing, Mich, Dr Hibbard W Hill, Boston, Mass "Methods of Using Disinfectants" *In Cities*, Dr Adolph Ghermann, Chicago, *In Hospitals*, Dr J J McKenzie, Toronto, Ont Dr Chas D Smith, Portland, Me, *In Quarantine Work*, Dr F Montizambert, General Superintendent of Quarantine of the Dominion of Canada

The lateness of the time prevented discussion of this most interesting and valuable group of papers, which fitly concluded one of the most successful day's work in the history of the association

A resolution offered to create a special committee to secure co operation in bacteriologic investigations in the three countries represented in the association was referred to the executive committee

Fourth Day—Friday, Sept 30, 1898

Morning Session, 10 a m

The president, Prof Charles A Lindsley in the chair

After the final announcement by the chairman of the local committee of arrangements, Dr John Sweetland of Ottawa, of post adjournment courtesies tendered by the Minister of Agriculture of the Dominion Government, the secretary, Dr Probst, presented the final report of the executive committee, recommending

1 The adoption of Dr Horlbeck's resolution to urge the establishment by the National government of a leper house

2 The appointment of a special committee, as suggested by Dr Wyatt Johnson of Montreal, for co operation in bacteriologic investigation by colleges, individuals and committees engaged in this work

3 The continuance of the committee on Public Health Legislation, of which Dr Henry P Wolcott of Cambridge, president of the State Board of Health of Massachusetts, is chairman, that it be urged and required to make every possible effort to promote the purpose for which it was created, and that the American Public Health Association hereby reaffirms its opinions of the advisability and necessity for the establishment of a National Board or Bureau of Health in the United States

4 The adoption of the resolution of Dr Wright proposing a special committee of five, consisting of the president, secretary, treasurer and two others to consider the advisability of substituting for the annual volume of transactions a monthly or other periodical devoted to sanitary matters, in all which the association by vote concurred

On motion of Dr Suiter of Herkimer, N Y, the association reconsidered its action of yesterday, declaring it inexpedient to adopt the resolution offered by him advising State, municipal and town authorities to enact laws interdicting the sale of long rubber tube nursing bottles, and upon his modification of his resolution making it expressive of the opinion of the association that the long rubber tube nursing bottle was a positive menace to the health and the cause of much mortality of infants, it was unanimously adopted It was explained on the part of the executive committee that its former action in declining to recommend the effort to obtain legislation was because of the belief of its members that no educated physician would permit, and no intelligent and competent mother use, one of these bottles, which the veriest tyro in sanitation could not but condemn, but as its action has been misunderstood, as was shown by conspicuous head lines in the newspapers announcing that "the association had shut down on the effort to abolish the rubber tube nursing bottle," and that "the rubber tube bottle had gained a victory over its opponents," and lest these assertions, if uncontradicted, might be taken advantage of for advertising purposes by the unscrupulous makers of these bottles, it was considered proper that the association should assert, notwithstanding the elementary and self evident nature of the proposition its, unanimous condemnation of their use As an evidence of the universality of this use, Dr Wende, the health officer of Buffalo, who has succeeded in making their sale impossible or punishable in that city, exhibited three long tube bottles which he had bought in the first three drug stores in Ottawa at which he had applied for them

Three additional applicants for membership were reported by the executive committee and elected

Medical Director Gihon, U S N, read a letter he had just received from Dr Jesus E Monjaras, president of the Council of Health of San Louis Potosi, regretting his enforced non attendance at the meeting by reason of a recent domestic bereavement

On motion of Dr Gihon, the secretary was directed to telegraph on the part of the association to Dr James F Hibbard [illegible] one of [illegible] zealous and most [illegible] regret that he had been prevented by illness from being present as he had invariably been at previous meetings

On motion of Dr **Durgin** of Boston, Mr Mitchell of New Jersey was appointed to draft a suitable memorial expressive of the regret of the association at the recent death of Dr **J Berrien Lindsley** of Nashville, Tenn , an original member and the long time treasurer of this association, and to place on record in its Transactions its appreciation of his personal character and disinterested and zealous service in the work of this association and the cause of sanitation

Dr **Irving A Watson** of Concord, N H , chairman of the auditing committee reported that careful examination of the accounts of the treasurer showed that they were correct in every respect

Mr **Crosby Gray** of Pittsburg, Pa , secretary of the Advisory Committee, reported the following nominations for officers of the association for the year 1898 '99

For President Dr **George H Rohé**, of Baltimore,, Md

For Vice President Dr **Jesus E Monjaras** of San Louis Potosi, Mexico

For Secretary Dr **Charles O Probst** of Columbus, Ohio

For Treasurer Dr **Henry D Holton** of Brattleboro, Vt

For Elective Members of the Executive Committee (for two years) Dr **H M Bracken**, of Minneapolis, Minn , Dr **Irving A Watson** of Concord, N H , Dr **Franklin W Wright** of New Haven, Conn (To fill a vacancy for one year) Dr **Gregorio Medizabal** of the City of Mexico, Mexico

The Advisory Council recommended that the twenty seventh annual meeting shall be held at Minneapolis, Minn All which was by vote of the Association unanimously adopted and the officers unanimously elected The president then announced the names of chairmen and members of committees, of which there are twenty one

Papers on "The Diptera from a Hygienic Point of View," by Dr Ramon Ramirez of Mexico, D F , and on "The Spread of Typhoid and Dysenteric Diseases by Flies," by Dr M A Veeder of Lyons, N Y , were then read, and discussed by Dr Gardner T Schwartz of Providence, R I , and Dr J N Hurty of Indianapolis, Ind , who related an instance within his own experience of the spread of dysentery at Tipton, Ind , from a patient whose injecta, it was discovered on subsequent investigation, had been thrown into the back yard, and where the only possible hypothesis as to the spread of the dysentery was that it had been propagated by flies, which were then especially numerous The views of the authors of the papers, Drs Ramirez and Veeder, were quite in accord with the reputed opinion of the military committee of investigation appointed by our ex president, Surgeon General Sternberg, U S A , Majors Vaughan, Shakespeare and Reed, who are alleged to have declared flies largely responsible for the distribution of typhoid germs in our military camps

The following reports of special committees were then presented and read Report of the committee on Transportation of Diseased Tissues by Mail, presented by the chairman, Dr E P Lachapelle, president Provincial Board of Health, P Q , report of the committee to consider and report upon some Method of International Arrangement for Protection against the Transmission of Infectious Diseases, presented by Dr Frederick Montizambert, chairman, general superintendent of quarantine of the Dominion of Canada , report of the committee on Animal Diseases and Animal Food, presented by D E Salmon, D V M., chairman, chief of Bureau of Animal Industry, Department of Agriculture, Washington, D C , report of the committee on The Duties and Responsibilities of the Healthy Man for His Own and Others' Health, presented by the chairman, Dr Charles N Hewitt, Red Wing, Minn , report of the committee on public health legislation, presented on the part of the chairman by Dr Henry P Wolcott, president of the State Board of Health of Massachusetts, by Dr U O B Wingate, health officer of Milwaukee, Wis

The following papers were then presented "An Epidemic of Diphtheria traced to an Infected Milk Supply" by Dr Benjamin Lee, health officer of Philadelphia, Pa , "Preventive Antirabic Inoculation Service in Mexico," by Dr Eduardo Licéaga, president Superior Board of Health, City of Mexico, "Report of Some of the Most Important Papers Presented at the Fourth Congress of Tuberculosis, held in Paris, July 27 to Aug 4, 1898," by Dr E A de Schweinitz, director Biochemic Laboratory, Bureau of Animal Industry, Washington, D C , "The Sanitary Treatment of Inebriates," by Dr A M Rosebrugh, secretary Prisoners' Aid Association, Toronto, Ont , "Garbage Reduction by Steam," by Dr M A Veeder, Lyons, N Y , and Mr J L Richards, sanitary engineer, Elizabeth, N J , the last eliciting discussion by Dr de Schweinitz of Washington, D C Dr Probst of Columbus, Ohio, and Mr Rudolph Hering, C E of New York City

The customary resolutions of thanks were then adopted for courtesies received from the Dominion Government, especially the Hon Sidney Fisher, minister of agriculture, the mayor, municipal officers and citizens of Ottawa, the indefatigable chairman, Dr John Sweetland, and his associates on the local committee of arrangements, the ladies of Ottawa, the proprietor of the Russell House, the railroad officials and the members of the press

The two senior ex presidents, Medical Director Gihon, U S N , and Dr Durgin of Boston, were then appointed to conduct the president elect, Dr George H Rohé of Baltimore, to the chair, and after appropriate remarks by himself and the retiring president the latter declared the Association adjourned to meet at Minneapolis at such time in November, 1899, as the executive committee may appoint, thus concluding one more of the successful and satisfactory assemblies of this flourishing body The majority of the members remained after the formal adjournment to attend a garden party at the Experimental Farm tendered by the minister of agriculture, Hon Sidney Fisher, and voluntarily added another day to their sojourn in this attractive and hospital capital of the Dominion, where besides the courtesies of the government and municipal authorities, they were treated to a week of the most delightful weather conceivable The unparalleled invigorating climate determined the American and Mexican members, who contemplate attending the Third Pan American Medical Congress at Caracas, Venezuela, to insist that Ottawa shall be the site of the Fourth

Chicago Medical Society

At the clinical meeting, October 2, in the absence of the president, Dr **Arthur D Bevan**, Dr **George W Webster** presided

Dr **Homer M Thomas** reported a very interesting and instructive case of aortic aneurysm, and exhibited the patient

Dr **Webster** exhibited, in connection with Dr Thomas' case, a pathologic specimen from a similar case of aortic aneurysm

Dr **I A Abt** described an interesting case of rachitis that came under his observation, and exhibited photographs and skiagraphs of the case

Dr **Carl Beck** exhibited a little girl, 14 years of age, upon whom he had operated, showing the results of a rhino blepharoplasty, the patient having undergone eight operations in all The second case was one of partial rhinoplasty The third was another nose case, but in which the destructive process was very extensive, due to erysipelas The fourth was a case of arthroplasty, the ankylosis of the joint being due to tuberculosis

Dr **H W Davenport** reported an interesting case of artificial self retaining maxillary arch and floating palate in a boy of 10 or 12 years of age Five surgical operations had been previously performed by different surgeons for the closure of the cleft without success The boy removes and replaces very easily and dexterously the artificial palate

Dr **O T Stein** reported a case of caries of the skull due to syphilitic infection

Dr **C L Lockwood** presented a case which beautifully illustrated the union of old fracture by percussion irritation He noticed a marked improvement at the end of two days from this method of treatment, and in about two weeks there was almost complete union

Dr **Charles E Paddock** reported a case of placenta succenturiata

Dr **George W Johnson** detailed five cases of congenital with acquired hernia

Dr **Edward J Brougham** reported a case of carbolic acid gangrene The patient sustained a slight injury with a knife at the base of the phalanx and fifth metacarpal, and three days after the application of 3 per cent carbolic acid gangrene occurred

Washington Obstetrical and Gynecological Society

The 285th meeting of this society was held on the 7th instant The President, Dr **T C Smith**, read his annual address, entitled

WHAT HAVE YOU TO OFFER THAT IS BETTER?—A QUESTION FOR CRITICS

He referred to the attitude of the conservative writers, both in medicine and surgery, and drew attention to the injury they did by criticising unfavorably all operative procedures of others, thereby tending to thwart medical process He showed how, in early medical history, these conservatives and critics had assailed the work of Ambrose Paré, Genner, McDowell and Battey He extolled the language of Joseph Price, who said "the aim and effort should always be to bring the patient into as normal a condition as possible, and make very improbable the necessity for a repeated operation" , and again, "complete work offers the best chance for complete recovery in about all cases " He admitted that some surgical operations had been done which should have been left undone, so far as the existing state of affairs was concerned, but went on to say that "even these, in the early state of the science, had been beneficial in teaching lessons from which the modern science has been developed " He referred to hysterectomy for fibroids and its early mortality, and compared it with the present death-rate He referred particularly to the unwise criticisms of our co associate, Dr Joseph Taber Johnson, during his early work and asked of the critics what they had to offer as a substitute that is better than the treatment pursued by the surgeons He referred to the present status of the treatment of unavoidable abortions, tubal diseases and extra uterine pregnancy, and showed how early adverse criticism had been largely responsible in delaying the acceptance of the modern and successful treatment of these conditions In conclusion he said "The surgeon who performs an operation for relief of disease is entitled to just and fair treatment in the matter of criticism of his work I believe he never removes more than he thinks the case demands, and that he is a better judge of the necessities of the case than the critic who sits at his desk and shoots his arrows, regardless of the harm he may do " He said "The critic is an obstacle in the way of progress, and while advancing nothing himself, does not want any one else to do that which advances scientific medicine and surgery In medicine and surgery progress has the right of way, and he who would impede its advance will be inevitably side tracked Permit me then to say to those who find pleasure in disparaging the work of others by unfriendly criticism, when you have concluded your strictures on operations devised by faithful men, be kind *enough to tell us, in the way of treatment, what you have to* offer that is better "

At the conclusion of his remarks a vote of thanks was tendered him, both for his paper and the faithful and efficient manner in which he had conducted the office of president during the past year

Denver and Arapahoe Medical Society

At the meeting held October 11, Dr Wm P Munn read a paper on

THE CHOICE OF ROUTE IN OPERATION OF THE BLADDER

He said in part The bladder may be reached for purposes of surgical treatment by the following routes 1 By the catheter, sound, cystoscope or lithotrite through the urethra, both in the male and female 2 In the female, by a cutting operation through the anterior wall of the vagina 3 In the male by aspiration and incision through the rectum 4 In both sexes by aspiration or incision through the anterior abdominal wall above or posterior to pubic bone 5 In both sexes, by intraperitoneal incision or aspiration or by urethral catheterization when a prior operative procedure has laid open the abdominal cavity 6 In the male, by perineal incision which may be directly into the bladder or by prior opening into the urethra After a careful theoretic consideration of the value of the different routes coupled with a larger clinical experience, the author has arrived at the conclusions that the perineal operation gives ready access and sufficient opportunity for opportunity for operative attack in the following cases 1 Foreign bodies in the fairly normal bladder, best, surest, safest route The incision is at the most dependent portion of the bladder, and therefore, nearest to the usual location of stone or any other foreign body, it leaves an open avenue for drainage, the opening is made with the least possible disturbance of the bladder structures, and, lastly, the wound heals with rapidity, leaving no annoying sequelæ 2 In a moderate percentage of instances of enlarged prostate 3 Single polypus 4 For single exploratory incision no other route is justifiable 5 The prolonged drainage 6 In dealing with large growths the perineal opening should precede and be used in conjunction with the suprapubic opening to facilitate the manipulations and to permit of proper drainage As a formal conclusion it may be stated that the suprapubic operation is not often required as a primary surgical procedure, but that its greatest usefulness is when it is resorted to either as a secondary measure or in conjunction with the perineal operation

Dr C A Powers, in discussing the paper expressed himself in favor of the crushing operation, especially in children He praised highly the procedure of distending the bladder with air, especially in cases where the bladder is greatly contracted,

Dr, Munn, in his concluding remarks, gave the statistics in his own practice 47 perineal sections with 3 deaths, 9 supra pubic sections with 3 deaths

Dr Wm C Mitchell read a paper on "The Gonococcus," which was discussed by Drs Munn, Stover, Whitney and Axtell

PRACTICAL NOTES

Lymphatic Apparatus of the Uterus —Peisser has found the lymphatic glands affected in more than 50 per cent of the cases of carcinoma colli uteri he has examined This propagation occurs early, while the carcinoma is still operable and the lig lata are supposed to be still "free " The regional glands should therefore be removed with the neoplasm, which can not be accomplished per vaginam, and renders the abdominal route imperative He has established by means of injections that the glandulæ hypogastricæ and sacralæ are the first stations of the collum uteri system —*Munich Med Woch* , from *Ztft f Geb u Gyn* , xxxix, 2

Protargol in Ophthalmia —Darier considers protargol very valuable in acute catarrhal conjunctivitis, which it cures in three days, and also in purulent gonococcus, which it cures in from eight to twenty days He touches the inflamed suface with a solution varying from 20 to 50 per cent, according to the severity of the case In a collyrium the dose is only 5 per cent Protargol (combination of silver with a protein base) is not irritating nor caustic like nitrate of silver Furst has protected infants from a maternal gonorrhea with a 10 per cent solution without the slightest irritation to the eyes —*Bulletin de l'Acad de Méd* , August 23

The Abuse of Cocain —Scheppegrell (*Med News*, October 1), writing on "The Abuse and Dangers of Cocain," attributed the establishment of the cocain habit, in the majority of the cases, to the prescription of the physician, and believes that it should never be prescribed for the patient's use He has found a peculiar phase evident in New Orleans in the contriction of the cocain habit by the negroes, a few crystals of the drug being snuffed into the nostrils for its exhilarating effects, physical and mental wrecks resulting He believes the druggist should be compelled to restrict the sale of this as well as of other toxic drugs to the prescription of the physician,

Pernicious Anemia of the Puerperium —Vinay considers every remedy injurious except arsenic, and to avoid the almost inevitable gastric and local disturbances, he prefers the rectal to the gastric or hypodermic method of administration Large injections produce intolerance, and he never exceeds five grams His formula is four grams Fowler's solution to fifty six grams aq dest The injections are made morning and evening for four days, and then three times a day In very severe cases he increases the proportion of arsenic five grams to forty five grams aq dest —*Médecine Moderne*, No 54

Hot Air as a Hemostatic —The jet of hot air from a Hollander apparatus directed upon the bleeding surface of a kidney, liver or severed blood vessel, will arrest the hemorrhage by the formation of an eschar commencing around the edges and gradually spreading over the entire surface, mechanically checking the flow, in experiments on animals, and Schneider concludes that it would be equally effective on man The heat is only 39 degrees at 5 mm from the apparatus, and hence is not sufficient to injure the organ He found steam less effective, and less convenient, for several reasons, masking the field of operation, etc —*Semaine Méd* , August 3

Progressive Pernicious Anemia —E Grawitz relates a number of observations in the *Berlin Klin Woch* , No 33, which demonstrate the efficacy of dietetic treatment with an early diagnosis In some cases repose in bed is the first requirement Loss of appetite is restored by treating the usual constipated condition, disturbances in the gastric secretions are treated by stomachica of all kinds and a mixed diet Treatment in a sanitarium is often indispensable He considers iron absolutely contra indicated in the first stages of treatment Arsenic in cautiously progressive doses, and quinin, are much more appropriate The effect of transfusion of blood is merely temporary —*Munich Med Woch*

Surgical Treatment of Pericarditis —Brentano has reported five patients treated by opening up the pericardium, with resection of the ribs, which he considers necessary, as a single puncture will scarcely ever allow the evacuation of the entire amount of pus, and incision without the preliminary resection is much more dangerous and less effective Pericardiotomy only promises success in acute cases Two cases of suppurated pericarditis ended in death, two cases of long existing serofibrinous pericarditis were only temporarily improved, but the fifth case was cured—a 10 year old girl—pericarditis consecutive to rheumatic endocarditis —*Deutsche Med Woch*, August 11

A Valuable Disinfectant —The disinfectant recommended by Kronig and Paul, discovered in the course of their painstaking tests of various disinfectants by the light of the new physico chemic theories of solutions and electrolytic dissociations, is a mixture of potassium permanganate and hydrochloric acid This solution kills the most resistant spores from extremely virulent anthrax bacilli in a few minutes, while it is cheap, non toxic, convenient and fully equal to a 5 per cent solution of sublimate They ascribe its remarkable microbicidal power to its extremely active ions As a disinfectant for the hands, for instance, they recommend the formula 45 c c of pure hydrochloric acid, dilute with 1600 c c of water, add 500 c c of a 5 per cent solution of potassium permanganate The solution also stains the skin, but the latter stain is easily removed, with a 1 3 per cent solution of oxalic acid —*Ann de la Soc Méd Chir de Liège*, June, from *Ztchft f Hyg*, xxv

Suprapubic Cystostomy for Prostatism —Poncet has performed this operation 114 times, with 27 deaths, since he proposed it in 1889 The prognosis depends almost entirely upon the condition of the kidneys and other organs It differs from cystotomy, as the lips of the bladder are sutured to the edges of the incised abdominal walls to form a permanent meatus It is especially adapted to incurable urinary affections for which he urges its general adoption, recommending an early operation It has again and again restored elderly men to health, when apparently in the last stages of urinary intoxication A typic observation is that of a blacksmith cystostomized six years ago, who retains his urine three to five hours and emits it in a stream 30 to 40 centimenters in length, through the hypogastric meatus Natural miction has never been re established, as the prostate has remained enormous, fibrous and knobby Another case, 87 years of age, in acute urinary intoxication with temperature at 40 degrees C continuous delirium, etc, was relieved at once with cystostomy, and a couple of months later natural miction was restored, the patient is now in good health, a year later The artificial meatus becomes a fibro elastic ring, often quite thick, and lined with mucosa throughout Out of 34 patients who have retained their new meatus, there is continence in 14 cases, partial continence in 7 and incontinence in 13 —*Bulletin de l'Acad de Méd*, August 8

Eighty Nine Symphysiotomies —Dr Pinard of the Baudelocque Clinic at Paris has issued a report concerning seven operations by symphysiotomy in 1897, making a grand total of eighty nine such operations performed in that clinic during the six years, 1892–97 Six of the cases were examples of rickety, flattened pelves, while the remaining case was one of a Naegelé oblique pelvis Of the mothers, two were primiparæ and five multiparæ, of the former one died from sepsis and acute albuminuria, the latter complication being present upon her admission to the clinic All the children were born alive, three being delivered by forceps and four by version In one patient the operation was performed for the second time, her second pregnancy having been terminated by symphysiotomy in 1892 At the first operation a tear occurred through the anterior vaginal wall into the operation wound, and at the second operation a similar accident happened in spite of every care being taken to prevent it The urethra and bladder, however, escaped injury and the wound healed well In the event of this patient again becoming pregnant Pinard considers that Cæsarean section would be indicated on account of the cicatricial tissue present in the anterior vaginal wall That symphysiotomy may produce some permanent enlargement of the pelvis, seems to be shown by the fact that four of the patients delivered spontaneously during the year had previously had symphysiotomy performed upon them, the report is of interest as enabling us to watch the progress of the operation Pinard has no hesitation in saying that in any future history of symphysiotomy a very important place will have to be assigned to the work done at his clinic —London *Lancet*

Extirpation of the Rectum —For inflammatory strictures this is not proving as successful as anticipated A study of 69 cases in the *Presse Méd* of September 14, shows that 10 died from the operation, 4 in the course of the year, from pneumonia, pulmonary tuberculosis, prolonged suppuration or puerperal infection from the sacral fistula The stricture recurred in 12 out of 24 cases followed over a year Incontinence was almost the rule, except in very constipated patients The suppuration was almost certain to persist, and with the Kraske operation the chances were in favor of a sacral fistula (7 in 15 cases) A number of patients have incontinence whenever the matters are soft, and obstruction when they are hard, with a constant flow of pus The article concludes with a plea for colotomy, and an artificial anus, easily kept clean and the only chance for the inflamed rectum to heal spontaneously, when natural conditions can be restored "When dilatation, combined with antiseptic lavages of the rectum does not produce the desired effect, temporary or permanent colotomy is the best palliative Extirpation has proved impotent to cure and should no longer rank as an approved radical method" "Even in tuberculous lesions the suppression of local irritation by colotomy favors the spontaneous cure of the torpid lesions"

Panas' Total Combined Keratectomy —This operation avoids all the dangers and deformities of enucleation It is especially adapted to chronic glaucomatous and painful eyes, as it ends the pain and glaucomatous condition entirely and permanently It leaves a round, smooth stump, fully three fourths the size of the normal eye, movable and unatrophied, over which the artificial eye cap fits so perfectly that its artificiality is scarcely perceptible The fears of sympathetic ophthalmia are exaggerated in these days of asepsis He has only encountered one or two cases in the last ten thousand at the Hotel Dieu The operation as he has performed it on 200 patients, with or without staphyloma, consists in first passing a Reverdin needle through the sclero corneal limbus behind the iris and lens, carrying a silk thread, which is left for the first stitch of the suture and tied if the vitreus shows a tendency to escape The cornea is then removed with a Graefe knife held flat, cutting it into fifths and snipping off the last fifth with the scissors The iris is removed with the cornea if adherent, otherwise he performs iridodyalisis The lens is then removed with the spoon, the escape of the vitreum being carefully prevented The stump is sutured with a couple of stitches in the sclerotic and rounded off The surface is rinsed with a solution of mercuric iodid, dusted with iodoform and a roll of iodoform gauze applied with a dry cotton bandage outside The threads are removed the seventh day The danger of hemorrhage is very slight—3 cases in 200 If it occurs, the eye can be enucleated or eviscerated The latter leaves a fairly goodly stump He mentions in his communication to the Académie de Médecine (*Bulletin*, August 23), that Pritchard was the responsible author of enucleation, but that we have now progressed beyond it Keratectomy, effective and harmless, should take its place in many cases—another forward stride in ocular surgery

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE

Per Annum in Advance	$5 00
Foreign Postage	2 00
Single Copies	10 Cents

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No 61 Market Street (Occidental Bldgs), Chicago, Illinois

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SATURDAY, OCTOBER 22, 1898

THE POWER OF EPITHELIUM TO LIVE OUTSIDE OF THE HUMAN ORGANISM

It is a well known fact that when general death of the body occurs all its cells do not at once die Every surgeon knows that transplantation with bits of skin that have been removed from the body for some time give very good results Pieces of skin from dead bodies have been observed when placed on wound surfaces to form substantial and permanent cutaneous covering **WENTSCHE** transplanted skin successfully after having kept the pieces for twenty-four to forty-eight hours in physiologic salt solution **GARRE**, who examined into the histology of the healing process of transplantation, found that large cell masses could maintain their life and power of proliferation for more than forty-eight hours, although they were simply made to adhere to a wound surface and were without demonstrable blood circulation

Recently **LJUNGGREN**[1] undertook a series of experiments for the purpose of further studying the faculty of epithelium to preserve its vitality outside of the organism, especially in relation to transplantation He carefully preserved more than forty fragments of skin, most carefully disinfected, in glass tubes containing sterile ascitic fluid, for from two days to six months At different intervals microscopic sections were studied with a view to ascertaining the histologic condition of the pieces to his great surprise he found that even for as long as three months the epithelial cells on the deeper layers showed well nuclei and a good prot[illegible]cture **LJUNGGREN** made twenty-two efforts at transplantation with these pieces, and in sixteen instances the immediate results seemed to be wholly successful, in three cases, however, the grafts died, in two they were absorbed by the surrounding granulations, but in eleven instances permanent skin was formed The longest time that these pieces had been kept in sterile ascitic fluid was one month

Finally, in order to prove definitely that the epithelium of the transplanted preserved epidermis played an active part in the growth of new skin and acted not merely as protective coverings under which cells from the epidermis at the margins of the wound could creep, he placed some of the preserved pieces directly upon a muscular surface and 10 cm from the cutaneous margins, that is at such a distance from the skin that its cells could not possibly become mixed with those transplanted, some time after the transplantation he removed small pieces for microscopic examination, and it was found that there had taken place a marked proliferation of epithelial cells with numerous figures of nuclear division The epithelial cells not only grew over the surface of the wound but also showed a tendency to penetrate into the granulation tissue in a way that recalled the appearance of the development of a beginning carcinoma

These observations, although not by any means sufficient to permanently decide the interesting biologic problems involved, nevertheless seem to us to indicate the value of further and more extended and diversified experiments along these lines

EOSINOPHILIA

When it was found, not a great many years ago, that the presence of eosinophilic cells in the blood was not only not a characteristic symptom of leukemia, but that these cells were a constant constituent of normal blood, interest in them was to a large extent dissipated Only of late, since the findings of **OSLER**, **THAYER** and **CABOT**, of an enormous increase of these cells in the blood of patients afflicted with trichinosis, has anything like general interest been excited But during this interval much work has been accomplished in blood histology and pathology, and not a few important points have been established as regards the eosinophiles While the eosinophiles may be always found in the healthy circulating blood, yet their proportion to the various forms of white cells exhibits a considerable range, from one-fourth of 1 per cent In infancy even this ratio may be exceeded, so that we must not look upon an eosinophilia at that period of life, unless very pronounced, as pathologic

While no definite classification of the causes of eosinophilia [illegible] attempted, yet it seems to be particularly liable [illegible] when there is some disease [illegible] the [illegible], as in osteomalacia [illegible] are [illegible] shown by N[illegible] [illegible]nophiles are very scanty in the blood, they may exist in considerable numbers in the marrow of bones (and in other internal locations as well), and many have thought that their appearances in the normal circulating fluid is purely accidental The very large proportion of these leucocytes in infant's blood may, as suggested by CABOT, have some connection with the very rapid progress of growth in the osseous structures at this time of life In diseases of the spleen, many skin troubles, and affections involving the sympathetic system and the organs of generation, there may be eosinophilia Having determined by a differential count that this change does exist, it may be of aid to us in various ways for instance in hesitating between a tumor of one of the genital organs and a tumor of another part of the body, from what we have said before, an increase in the eosinophiles would favor the former, in a similar manner an eosinophilia in malignant disease would open the suspicion of involvement of bone either by direct extension or by metastasis

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[1] Nordi Kt Medicin kt [illegible]

As regards prognosis, eosinophilia can not always be looked upon as a bad omen Even in such hopeless cases as leukemia, it is most conspicuous in the mildest type of the disease, the spleno-myeloginous, while in the other blood diseases, as pernicious anemia and chlorosis, it indicates a comparatively favorable course Mention was made above of the presence of this symptom in trichinosis In this disease the proportion of eosinophiles is largely in excess of that of any other disease as far as we now know Indeed, in one of THAYER's cases as high as 62 per cent was noted during the course of the acute symptoms In other cases in which tentative diagnosis of typhoid fever and malaria have been made, a blood count yielding an eosinophilia of 20 per cent has changed the diagnosis to trichinosis, which examination of portions of muscle obtained by puncture has subsequently confirmed In all these cases of trichinosis, it might be noted, a pronounced leucocytosis has always been present and the eosinophiles have gradually lessened with the disappearance of the acute symptoms

HOMICIDE BY MICROBES

The suspicional fear of the unknown which causes primitive races to believe that natural death can not occur, and that all deaths must be due to some malign influence, either supernatural or homicidal by poisoning, survives in this last phase among the English-speaking nations From this comes the detective mania so often exhibited by the press and the practitioner of "crowner's-quest law," who have been ridiculed since the time coroners were originated by the Norman kings to secure forfeiture of goods of felons for royal benefit (Green's History of the English People, Vol 1) In English-speaking countries, the coroner, as a rule, true to the detective theories which have given him birth, generally chimes in with the press in its detective predilection for criminal accusation, in violation of the central principle of the English common law that every crime must be proven beyond a doubt, and that every circumstance that can be construed reasonably in favor of innocence must be so construed As a result, whenever a supposed crime due to possible negligence by the paternal powers of the state, ignorantly supposed to be present in English-speaking countries, occurs, the press and the coroner seek for a scapegoat, and generally find it in the long-suffering, public spirited medical profession Denunciation of it does not affect any plutocratic "vested interest," as would denunciation of newspaper advertisers

An illustration of the primitive epidemic terror anent poisoning and of the tendency last mentioned recently occurred in England SIR JAMES CRICHTON BROWNE, one of the English-speaking authorities on forensic medicine, delivered an address before the British Pharmaceutical Society, in which he stated that there were organic poisons known to physicians which could be used with impunity by any criminal so disposed By keeping his own microbes, a connoisseur in poisons could, without the slightest fear of detection, slaughter hundreds of innocent persons The statement of such facts was fully in accordance with the scientific principle that science, like fire, purifies everything, and that exact truth must always be known so that its effects can be fully guarded against It is the unknown nature of poison which so frequently leads the poisoner to use arsenic and strychnin, when with a little knowledge he would be deterred from such crime by his certainty of detection Without any regard for scientific truth for the medical profession or the interest of justice as already defined in the English common law, A BRAXTON HICKS, coroner for the Kingston District, Surrey, England, in the course of an inquest held October 6, on the body of a country official who died from the effects of an untraceable poison, took occasion to score CRICHTON BROWNE's lecture in the strongest terms "Such talk," he said, "was not likely to further the ends of justice Dr BROWNE should have thought twice before disseminating such knowledge"

It is a singular illustration of coronorial tendency to omniscient ignorance of forensic medicine and its literature that Coroner HICKS, who has been in office many years, should have forgotten a famous typhoid epidemic at Buenos Ayres half a decade ago This was distorted by the English speaking press into a magnificent canard of poisoning by microbes According to the newspaper story, a merchant of that city, being upon the eve of bankruptcy, invites all his creditors to his house, instructing them to bring their receipted accounts Before proceeding to business the creditors are invited to a choice little dinner, including several kinds of liqueurs The Creme-de-menthe is iced with cubes of frozen water containing typhoid and colon bacilli galore Every one of the creditors dies from typhoid fever before leaving the house The crime would never have been detected, according to the newspapers, but that the butler ate one of the cubes The little touch about instantaneous deaths from typhoid in this tale should have destroyed its credibility Despite this, it passed muster and was widely quoted in newspapers, and even callow medical journals, with comments on the increased powers given the poisoner by bacteriology, and diatribes on the danger of such knowledge being communicated to the public Coroner HICKS never scored the skilled "wanderer from the hackneyed limits of the actual," who did this tale evolve from the depths of his inner consciousness OUIDA, in one of her splenetic, zoöphilic, anti-vivisection degenerate outbursts, wrote a most lurid novel called "Toxin," in which a vivisectionist was led by experiments on animals to the murder of human beings by the use of hypodermic injections of pathogenic bacteria and their toxins The picture of the vivisectionist physician is a greater caricature of the scientific experimenter, if that be possible, than WILKIE COLLINS' opium vision of the vivisectionist physician in "Heart and Science" Another novel issued at an earlier time, dealing with the same problem, did greater justice to the physician The use of pathogenic bacteria for homicidal purposes is by a degenerate, in contrast with whom is a physician replete with the altruistic impulses of the medical profession This novel —GRANT ALLEN'S "Devil's Die"—was published nearly a decade before OUIDA'S "Toxin," which it seems to have suggested It was widely reviewed in the newspapers of the English-speaking countries as well as in the literary reviews The story reeks with bacteria One very dramatic incident turns upon the attempt of the degenerate physician—who is a skilled bacteriologist—to poison his wife by the toxins and germs of cholera for the purpose of marrying a woman novelist The details of the culture of bacteria are given The methods of their hypodermic administration are fully described The physician is a descendant of a cruel East Indian woman who starved a slave girl to death in a cellar beneath her own room so that she might enjoy her death-cries The slave she regards as a rival claimant of the affections of her European husband The character of her descendant, the physician, which is of the unstable degenerate type, is chargeable, according to the "Devil's Die," to defective inheritance, not to scientific training In accordance with GRANT ALLEN'S notions of destroying race prejudice, an altruistic black Mohammedan physician of East India extraction is introduced as a foil to the degenerate before mentioned The two are friends Both work at the same problems in bacteriology and biology The first evidence of ruthlessness of the degenerate occurs when a sottish woman of the slums is brought to the hospital, badly injured by her husband for wilfully and brutally slashing her child with a glass bottle used as a candlestick Together with the injuries she is suffering from cholera nostra Her death from the latter is essential to the demonstration of a bacteriologic theory which the degenerate has evolved She rallies rapidly from the wounds and the cholera The degenerate, fearing for the success of his theory, sews a rubber bag in his coat, fills it with ice and, despite the precautions of the Mohammedan, who suspects him, succeeds in giving the woman a fatal chill with the hand which he has concealed in the ice bag The woman dies His bacteriologic theory is laid before the chief London medical society and endorsed by a thinly-veiled wraith of Sir WILLIAM JENNER Unfortunately the husband of the degenerate's victim is indicted, tried and convicted of murder Fortunately, however, for the degenerate, the trial violates the legal principle that the cause of death must be proven beyond a reasonable doubt The husband is therefore pardoned The degenerate gains great praise for his theory and is made by Queen Victoria professor of etiology in a London university He takes charge of the daughter of the murdered woman and is esteemed for his kindness to her She grows up perfectly devoted to him and learns the technique of bacteriology On visiting Cornwall, the degenerate and his Mohammedan friend rescue the crew of a dismantled ship laden with cholera cases The cases are taken into the house of a rector of the vicinity The degenerate and the Mohammedan both fall in love with the rector's daughter The Mohammedan, remembering the slave girl's story, is apprehensive of the future of the rector's daughter in case she marries the degenerate The marriage, however, occurs and proves happy for some years, when a female novelist appears on the scene, with whom the degenerate falls in love Determining to kill his wife, he substitutes a watch-glass containing cholera germs and toxins for a similar glass supposed to contain morphin The Mohammedan detects and changes the glasses which, however, are rechanged by the slum girl bacteriologist before mentioned The injection does not prove fatal, but the degenerate infects himself and dies from cholera The story is so told as to show that the injection of pathogenic bacteria and their germs is not always a success from the homicidal standpoint

The attempt by Coroner HICKS to limit the statement of scientific truth before a scientific body, can not but remind the student of forensic medicine that the position of the coroner as to forensic medicine is still as sapiently sciolistic as in the days of SHAKESPEARE, who thus ridiculed it in Hamlet

2d Clown —But is this law?
1st Clown —Ay, marry, is't, crowner's quest law

Disappearance of Tetanus —Benicio reports two cases in which the tetanic syndrome vanished with the appearance of measles, and Costa another in which it vanished in the course of an attack of violent diarrhea —*Brazil Méd*, September 1

"THE MOMENT AND THE ARTICLE OF DEATH"

It is not an uncommon practice in recent years for writers of fiction to attempt to portray the feelings of the dying in the supreme moment when the passage from the known to the unknown takes place, especially in case of violent or so called instantaneous death TOLSTOI, in his "Sevastopol," was perhaps one of the most successful in this line, but he has many imitators, some of them of very recent date in the literature incited by the recent military operations in Cuba and in the Soudan It is a curious fact that none or almost none of these imaginative writers have made the feelings of the subject in the instantaneous forms of death to any extent painful It would seem sometimes that the exaltation or intensification of feeling, the illusions of time and space that they describe were derived from some haschisch reminiscences, or something of the kind, rather than from any veritable experience narrated by those who have been very near and yet escaped death, the most obvious and natural source of data for building or modeling upon in such a matter The popular notion, judging from the sensational fiction, which presumably meets it best, is apparently that there is a hyper-consciousness at the moment of sudden death, but that the element of coarse material pain is generally lacking

There is a certain reasonable ground for this belief in such facts as those of electric shocks not apparently destroying consciousness but yet benumbing sensation, and other similar phenomena The facts of sudden death, themselves, so far as we can appreciate them objectively, do not indicate any probability of serious suffering or even of retention of any degree of conscious feeling whatever in most cases The imaginative creations of fiction writers have no real basis in scientific observation or experience so far as they attempt to portray in elaborate detail the last surviving consciousness of the victim, the fact is, we have no evidence or reasonable presumption that such exists, or that sudden death in appearance is not equally sudden and complete in reality

The only practical importance of this question, however, is in its relation to euthanasia, and as regards this, for the most of mankind, even this practical importance does not exist Men do not seek sudden death often for the purpose of avoiding the long drawn out pangs of ordinary dissolution, the normal man clings to life even with suffering The conscientious physician who attempts to benumb with anodynes the tortures of fatal illness does so in fear and trembling lest he may inadvertently cut short the allotted span of life of his patient, it is only with condemned criminals and those among them whose offenses have been so extreme that it is deemed right and expedient to put them out of existence, that modern humanitarianism can have full play in assuring them an absolutely painless exit from this life This is, in its way, an anomalous fact, and it need not be objected to, as it is in accord with the spirit of the times, which eliminates the retaliatory or revengeful element as much as possible from legal penalties, but it may be well to ascertain whether there are grounds for the belief that in any modern form of execution the element of painfulness exists to any serious extent The subject was discussed editorially in this JOURNAL a few months since and some apparent objections to present methods strongly stated It was shown that none of the present methods fully satisfied the humanitarian demands, that there was an apparent possibility of some discomfort, if not of actual pain, in every method of death that had been devised or prepared as a penalty for capital crime Even electrocution, which was adopted in New York as the method best satisfying modern ideas, has its hitches and delays, and death is not always clearly instantaneous, and now comes the report from Paris, through the public press, that a French physician has ascertained that even decapitation by the guillotine, which was supposed to be as nearly as possible an insurance of instant death, is anything but a success in that regard, and that decorporated heads retain a consciousness and exercise of their special senses for very appreciable periods of time after the operation According to the authority referred to, the brain retains blood enough for its nourishment for an hour after decapitation and absolute death does not occur for three hours To be sure, this contradicts well-known pathologic facts and theories, and the scientific exposé of his views and the grounds on which they are based has not reached us, but the statements go the rounds and excite comment and belief In no way would it seem that capital punishment can be carried out in an unobjectionable manner

The real question is, however, does actual pain exist at the moment of death, are not the senses so benumbed that the subject feels no pain, and do we not secure this in the methods of sudden taking off used in legal executions? The time-honored method of hanging is as barbarous as any in use in civilized lands, in appearance at least, yet those who have experienced it and been resuscitated do not as a rule describe it as agonizing—some of them, indeed, have described actually agreeable sensations, especially of a sexual order, and the very common phenomenon of priapism in the hanged would suggest that such may be very general A long drawn out hanging is not, however, a desirable mode of death in a theoretic point of view and the method is open to the charge of being behind the age and in a sense barbarous All methods that practically insure instant death, as do electrocution and decapitation, can not be really painful, for there is no reason to believe that the actual moment of dissolution is often, if ever, painful in itself, and if divested of needless accessories of publicity, etc, can hardly be called barbarous, that is, if the legal taking of human life is not itself a barbarism

The chief barbarism and torture of modern methods of dealing with capital crime is in the law's delays, the false hopes aroused, the long drawn out preliminaries, more than in the final execution of the offender The law plays with the criminal like a cat with a mouse and in so doing loses half the salutary terror she should excite against the commission of crime, while it aggravates the mental agony and suspense of the formally convicted And for all the rest of the world euthanasia is, in all probability, needed more in the precursors of dissolution than in the actual moment of death'

DESTRUCTION OF AN ARMY HOSPITAL BY STORM

The destruction effected by the storm of October 2 near Fernandina, Fla , has not been noted in the news papers, as telegraphic and railroad communications were interrupted for so long after the event, but reports recently received by the War Department show that the hospital of the Third Division, Fourth Army Corps, was completely swept away and the military part of Fort Clinch materially damaged The weather was threatening during the night of October 1, and the storm broke with great fury about 7 o'clock next morning The barometer stood at 29 02 inches, the wind was estimated at 100 miles per hour and the sea rose to such an extent as to constitute what is usually called a tidal wave Fernandina suffered severely Many buildings collapsed before the force of the gale The water was six to eight feet deep over many of the docks, and tugs and other light vessels were stranded in the streets of the town The quarantine station was washed from the face of the earth, as also was the hospital of the Third Division of the Fourth—General Coppinger's—Army Corps The hospital was on the beach, about two hundred yards from the surf, but separated from the ordinary high-water line by a range of sand-hills Fortunately most of the patients had been sent by hospital trains to the general hospital, Fort McPherson, Ga , on September 27, as it was the intention to abandon the site at Fernandina In a few moments after the onset of the storm the waves broke through the line of sand-hills and submerged the tents used as offices and officers' quarters An effort was made to save personal effects and the hospital records The latter were recovered and placed in the pavilion wards, which at the time were believed to be free from danger But as it soon became apparent that these would be swept away, the prompt removal of the patients was effected by litter They were carried to the Strathmore Hotel, some four hundred yards distant, but by the time this was accomplished the pavilions were destroyed and the hospital corps barely escaped with their lives in their unsuccessful efforts to recover the books of the establishment The water advanced on the hotel in which refuge had been sought, and the north end of it collapsed, while the south end remained comparatively secure Meanwhile, about 9 o'clock, an official of the Florida Central and Peninsular Railroad Company, realizing that the sick, the attendants and others at the hospital would be in great danger, took an engine and two freight cars, and calling for volunteers, succeeded in reaching the hospital, although the fire in the engine was nearly extinguished by the high water on the track He succeeded in carrying them to a high ground on the track, where they were safe, and whence, late in the evening, some managed with difficulty to reach Fernandina while others remained on the cars during the succeeding night Major W F Carter, surgeon U S Army, chief surgeon of the hospital, reports that his men behaved with the utmost coolness and made strenuous efforts to save property and lives They were up to the armpits in water in the work of rescuing women and children

Fort Clinch, an old artillery post, garrisoned for the first time in many years when war was declared, was greatly damaged by the storm of October 2 As at most of these old posts which have been recently brought into active service, the buildings were decayed and unfit for occupancy except under conditions of war The water rose to five feet in the quarters The medical officer, Dr Francis Lieber, was sick with typhoid fever at the time and was awaiting the arrival of Dr Shattuck from Hilton Head to relieve him After the storm Surgeon Carter, of the division hospital at Fernandina, sent one of his assistants, Dr Chmelicek, to bring Dr Lieber and his sick men to the city, about seven miles distant Dr Lieber died on October 11 He was the son of Gen Norman G Lieber, judge advocate-general of the army There is no doubt that the excitement occasioned by the storm had a harmful influence on the progress of the sickness

RED CROSS AID AT SIBONEY

The story of the work of the Red Cross at Siboney, when the Spanish troops interfered with the march of the Rough Riders and the Colored Cavalry to Santiago, was told very extensively at the time, and the refusal of the Army Medical Department to accept proffered assistance met with severe comment in many quarters To refer to it at this late date looks like being behind the times, but the fact is we have only now heard from the other party concerned The accounts already published came directly, or indirectly through the interviewer, from Red Cross sources, but now Colonel Valery Havard, who was chief surgeon of Wheeler's Cavalry Division, considers it proper for him in the interests of truth and justice to make to the Surgeon-General a statement of the facts as known to him, the officer most concerned His tale is interesting, otherwise, as presenting a graphic and unvarnished picture of the difficulties of the medico-military situation and the pitiable condition of our wounded or sun-stricken soldiers. He says:

The first division of our troops landed at Baiquiri and advanced swiftly to Siboney, which it occupied without resistance. On the 24th, the transport *Alleghany*, upon which I was, with other members of General Wheeler's staff, steamed down to Siboney, but it was only on the morning of the 25th that I was able to make a landing. This landing was accelerated by the news, brought by a newspaper man, of the fight which had taken place the day before in the jungle of Guacima. Fortunately we had kept on the upper deck, in an accessible place, three medical and surgical chests, quite a lot of additional articles, a small bale of blankets and a few litters. All these we quickly transferred to a row boat and successfully landed, so that there was no suffering, at any time, among my patients due to any want of medical attendance, medicines or dressings. We also had an abundance of rations, which were cooked and served without counting.

A large store room, much dilapidated but with plenty of doors and windows, seemed to be the best place for our provisional hospital; I already found a few patients there and hastened with one assistant surgeon, two acting stewards and four hospital corps men, to make the place as clean as possible. The wounded, some forty in number, were brought in during the whole day of the 25th, on all kinds of improvised litters, about five miles over a very muddy trail, in the heat of a tropical jungle, but all arrived safely. This transport by hand of the wounded by their devoted comrades struck me as hardly less heroic than the battle itself.

We laid the patients in two rows upon the hard wooden floor, with hardly room enough to pass between. We were almost entirely destitute of cots and blankets, the few litters we had brought from the ship being used as bunks for the worst cases. With and after the wounded, came in a steady stream of cases of heatstroke, remittent fever and dysentery. Soon the floor space in the main room was crowded, the patients lying side by side. Other adjoining rooms were utilized, light and ventilation being obtained by knocking down the partitions; but before long the whole building was overflowed and patients had to be placed upon a narrow rickety porch, more or less exposed to rain and sun. To make matters worse, cases of measles came and had to be provided for. This we did in a nearly contiguous rum shop, exceedingly filthy but with one front room susceptible of some degree of cleansing. In this we crowded twenty six patients, several sleeping on the large counter.

Our kitchen arrangements were a comparative success. We had an active and intelligent cook who knew how to hustle in an emergency. He got together the necessary utensils, and enough of substantial food was provided from the first. An unexpected and much prized discovery in the village, was a half dozen casks of excellent and wholesome Spanish wine, which was turned over to the hospital and probably saved several patients' lives.

However, our position was pitiful; the patients lying on the floor, mostly in their trousers and flannel shirts. With few exceptions they had thrown away blouse, blankets and ponchos. The blankets we had brought with us did not go far in this great need. The days were very hot but the nights unexpectedly cold and some thick covering was required for comfort. As already stated, we had nothing better to feed these men than the ordinary articles of the soldier's ration, with but few delicacies, which did not last more than a day; but notwithstanding this destitution, I do not recall that a single man brought into that building died there. In two or three days the hospital ship *Olivette* arrived and most of the wounded were carried upon her. On the 29th I transferred the few remaining patients to Dr. LaGarde and rejoined my division at the front.

From the beginning, Miss Clara Barton's ship, the *City of Texas*, lay in the Bay. Realizing the futility of expecting stores from the hold of our own ships, although anchored only a few yards from shore, I rowed to the *City of Texas* and called on Miss Barton the day after I took charge. She received me kindly, listened to my tale of suffering and promised to send some cots, blankets, and whatever food stores for the sick she could spare, the primary object of her charity, as she explained, being the Cuban rather than the American soldier. She was as good as her word. Only a few cots came, but the blankets were nearly sufficient to give one to all patients who were without any.

Next day, some of the members of her staff visited the hospital and, in my absence, asked my assistant what they could do for the comfort of the patients. This assistant took upon himself to decline their kind offer of services, not even notifying me of the occurrence. Here I may remark that I was surprised the gentleman who accompanied the ladies should not have inquired for the officer in charge of the hospital and responsible for it. Probably I was stealing a nap in some corner and could easily have been found. Therefore, I was amazed when, later in the afternoon, an elderly lady and a younger one appeared, both meeting me in the middle of the main ward with marked frigidity of manner and addressing me with unmistakable acerbity of tone. Sweeping their arms along the rows of patients, they asked me how I could stand unmoved at such a pitiful sight and scorn assistance when I stood in need of everything. The younger lady was particularly persistent in discharging her injured feelings upon my innocent head, and it required considerable self control not to betray myself into an expression of impatience. They told me all that they had accomplished at the Cuban hospital, half a mile away; how the floors had been scrubbed, fresh linen put on the beds and every patient made comfortable; that it was a shame they should not be allowed to do the same for the American soldiers. I succeeded, in time, in making them understand that a very unpleasant mistake had occurred, for which I was exceedingly sorry but blameless; that, on the contrary, I had, from the beginning, been hoping for their help and was ready and anxious to receive it at any time, the sooner the better. One of the Red Cross gentlemen joined us at this time and I offered him the same explanation and extended the same request. It was then agreed that the ladies would come the next day. They accordingly appeared in the forenoon and I showed them the uninviting field of their volunteer labor. The inquiry was naturally made, where they could find a room for themselves. I told them that there was absolutely none in the two buildings occupied by the patients, the medical officers taking chances at any unoccupied part of the porch. I took them about four hundred yards to a barn which had a habitable room, or rather a room which could have been made as habitable as could be looked for at that time and place. They consulted among themselves, gave me some evasive answer and went to the Cuban hospital, where they remained. Never afterward did they return to my hospital or offer personal services. In other words, to speak plain truth, an earnest appeal was made to them and they did not respond. Their reasons may have been good and I never questioned them, but I have wondered why in their accounts of those painful days, I am blamed for refusing the services of those ladies when, in fact, they refused to give the services that were asked.

This incident did not, however, alter my high appreciation of the Red Cross. Even at Siboney, if I missed the deft fingers of sympathetic nurses, I received substantial help in other ways. Later, at the field hospital, on the Santiago road, after the dreadful days of July 1 and 2 when I saw Miss Barton, with another lady, arrive on an army wagon over one of the worst roads in the world, and, without any rest, go to work and prepare soup over a camp fire, I realized that a society inspired by such a leader could not help being fruitful of good results. Therefore I obeyed a very natural impulse when, at Santiago, the day before her departure, I called on Miss Barton and, in the name of the Medical Department, expressed to her my grateful acknowledgments for all her society had done for us in our times of need.

CORRESPONDENCE

For a National Bureau of Health

DETROIT, October 14, 1898.

To the Editor:—It is now the time of the year that the medical men of the United States should be sounding the candidates for the office of United States Representative as to the position they are going to take upon the question of establishing the National Bureau of Health.

The Wayne County Medical Society of Michigan, the largest medical society in the State, excepting the State Society, passed resolutions last evening, appointing a committee to look after this matter, and also to inquire into the position that the State Representatives will take on this matter when the selection of United States Senators goes before them. Individually, several members of our Society have also taken pains to see various prospective candidates so as to place this matter before them in such a light that they may act intelligently upon the question when presented to them; and if a candidate refuses to co operate with us, then it is proposed to "snow him under" at the polls

I am satisfied that had this National Bureau been formed a year ago much of the terrible deprivations and sufferings that overtook our boys in the field would have been largely reduced, for had President McKinley had at his elbow a man in touch with all the leading health organizations of the States, as he would have, had this Bureau been formed as the Committee of the AMERICAN MEDICAL ASSOCIATION had it mapped out, a better selection for Army camps would also have been made

While I do not wish to criticize at all the work of Surgeon General Sternberg—for I consider it magnificent—yet, at the same time, I feel that had he had the aid of some one at head quarters, in the President's Cabinet, who was a careful, conscientious medical man, that the medical record of the army would not have been surpassed in the history of active military campaigns

With this view, I ask your readers everywhere to put into operation the necessary measures for explaining these matters to the Congressional candidates, and for those of the State Legislature, so that in the coming year our representatives can work more in harmony upon this all important medical question—the establishment of a National Health Bureau

Some of the present United States Senators and Representatives are warmly in favor of the bill advanced by the Committee of the AMERICAN MEDICAL ASSOCIATION, introduced by Senator Spooner, and we are satisfied that many of the other members of both the House and Senate would be as warmly committed to its provisions if they only knew its far reaching beneficial results Yours truly,

C HENRI LEONARD, M D

Another Cataractous Family

WHEELING, W VA, Oct 15, 1898

To the Editor —About two years ago, in the *New York Medical Journal*, I reported "A Cataractous Family," in which the mother, three daughters, and possibly two sons, have had cataracts at about the age of 40

I operated today on a mature cataract in the right eye of a man named Reason Goddard, farmer, aged 67 It had first begun to dim his sight sixteen years ago One in the left eye is about half formed

His father had cataracts in both eyes, well matured, when he died at the age of 68

An older sister of the patient was blind from cataract and was operated on at about the age of 50

Another sister, aged about 60, has a mature cataract in the right eye

Two male cousins, sons of his father's brother, had cataracts in both eyes when about 60 years of age

JOHN L DICKEY, A M, M D

SOCIETY NEWS

Postponed —The Southern Surgical and Gynecological Association has postponed its Memphis (Tenn) meeting until Dec 13, 14 and 15, 1898, on account of the prevalence of yellow fever

American Microscopical Society —This society at its recent annual session, elected the following officers for the ensuing year President, Dr William C Krauss Buffalo first vice president, Prof A M Bleile, Columbus, O, second vice president, Dr G C Huber, Ann Arbor Mich, secretary, Prof Henry D Ward, Lincoln, Neb, treasurer, Magnus Pflaum, Pittsburg, executive committee, Prof S H Gage, Ithaca, Dr A Clifford Mercer, Syracuse, and Dr V A Moore, Ithaca

American Electro Therapeutic Association —This association, at its eighth annual meeting in Buffalo, N Y, held September 13, 14 and 15, elected for president, Francis B Bishop, Washington, D C, vice presidents, Ernest Wende, Buffalo, N Y, William P White, Boston, Mass, secretary, John Guerin, Auburn, N Y, treasurer, Richard J Nunn, Savannah, Ga

Wayne County Medical Society —At the regular meeting, held October 13, in Detroit, Dr K Gunsolus read a paper on "Cranial Abscess" He said that, in the early '70s, when he first began to practice medicine, he passed through an epidemic of cerebrospinal meningitis, in Monroe County, Mich The epidemic began in the spring of the year and continued with more or less severity for about a year Great numbers had been attacked and the mortality was high, many of the deaths being due, no doubt, to the formation of pus in the cranial cavity No attempt at relief by surgical interference had been done, for brain surgery was then in its infancy While there is an increasing field for the general surgeon in this branch of science, there is more work and more attainments to be accomplished by the ear specialist in this direction than any other, for it is conceded, and statistics show, that more than one half of the cases of cranial abscess arise from a suppurative process in the middle ear As to the other causes of cerebral abscess, we have first, traumatism, more frequent than severe, though it may follow a slight injury and a long while after the injury has been received In these cases the abscess is always found at the seat of injury Another cause of cerebral abscess is caries or suppurative processes in the orbital cavity, the antrum of Highmore, or the nasal cavity Boettcher reported a case where a cerebral abscess was secondary to an abscess of the lungs Lastly, there are the so called idiopathic cases, which some so stoutly deny having any existence The doctor then entered into the symptoms, including the localizing symptoms by which it is possible to tell more or less accurately the location of the abscess, enumerated the diseases from which cranial abscess should be differentiated, and gave the treatment, which is the evacuation of the pus with good drainage, as in abscesses elsewhere Drugs of any description amount to nothing

NECROLOGY

H A GILMAN, M D, for many years superintendent of the Hospital for the Insane at Mount Pleasant, Iowa, died October 9 Dr Gilman was a man of rare executive ability, and came to Iowa from the institution of like nature at Jacksonville, Ill, where he had been assistant physician fifteen years The hospital at Mount Pleasant stands as a monument to his general capabilities as a manager He was graduated from Dartmouth Medical College in 1867 He was 53 years old

NATHAN SMITH LINCOLN, M D, University of Maryland, 1852, a well known physician of Washington, D C, died there October 3, aged 70 years He was an emeritus professor of surgery to the Columbian University at the time of his death and was also a member of many medical societies, and of late years in high esteem as a consultant He will be recalled by most of the profession as an attendant of President Garfield during the last months of his life

FRANCIS LIEBER, M D, an acting assistant surgeon U S A, Judge Advocate General Lieber's oldest son, died of typhoid fever at Fernandina, Fla, October 10

HENRY CLAY BAKER, M D, Malvern, Ark, October 9 —— C M Holmes, M D, first assistant physician at the Northampton Hospital for the Insane, Northampton, Mass, October, 7, aged 49 years ——Charles L Fox, M D, Lowell, Mass, aged 28 years ——Calvin Morgan, M D, Dugansville, Ky, October 3 ——William Pratt Read M.D Philadelphia, October 8, aged 51 years ——John G Stuart, M D, Fortville, Ind, October 7, aged 73 years

PUBLIC HEALTH

Health in Michigan – Reports to the State Board of Health for September give the five most prevalent diseases as Diarrhea, rheumatism, neuralgia, bronchitis and tonsillitis Compared with August (vide JOURNAL, p 803), typhoid fever, influenza, remittent fever and tonsillitis increased in area of prevalence

The Bacillus Icteriodes —The report on Sanarelli's work in regard to yellow fever, presented recently to the Rio Janeiro Academy of Medicien, by A Ramos, confirmed all his statements concerning the etiology and agent of the disease, but failed to confirm his therapeutic and prophylactic serum treatment, which is "still an aspiration"—*O Brazil Médico*, August 1

Solid Diphtheria Serum —This appears as a yellowish or whitish powder or yellow transparent leaves, which dissolve in ten parts water to a fluid resembling fluid serum in color and aspect The standard established by the German authorities is 5000 immunity units to 1 gram, and the price not above two marks for 200 units or eight marks for 1000 units —*Klin Therap Woch*, September 11

Prophylaxis of Measles —Widowitz has been studying several extensive epidemics of measles, and he now announces that epidemics could be prevented by the simple measure of closing the schoolroom in which the first case was noted, from the ninth to the fourteenth day after the first indications were observed, and the parents of all the children in this room ordered to keep their children away from other children during these distinctly specified five days Children from the same house could then return to school if provided with a physician's certificate that they have previously had the measles —*Vienna Klin Woch*, No 36

The Water Supply of Northeast London —The citizens of London are unable to cope with their water supply companies, among which there seems to be not much reciprocity The East London Waterworks Company does not keep faith with its customers, and a correspondent writes that an *émeute* of the population is to be dreaded The Royal Commission, which leans somewhat to the management by the companies themselves of their own affairs, may recommend "the amalgamation of all the companies into one central scheme under the control of a public body, perhaps the London County Council" The water companies were repeatedly urged during the last twelve months to connect their systems and be prepared to help one another in an emergency, but nothing was done For a truth small communities have the greatest bliss, since with them dividends and stockholders are not widely known

Yellow Fever —After our report of last week was prepared, Jackson, Miss, reported 9 new cases, on October 10, with 14 new cases at Harriston, 1 more at Canton, 15 at Madison, 1 at Oxford, 1 at Meridian, 1 at Taylor's Station, 6 with 1 death at Orwood and 8 at Hattiesburg On the same date Louisiana reported New Orleans, 4 new cases and 1 death, Wilson, 8 new cases, Houma, 10, Franklin, 14 and 1 death, Clinton, 3, Lake Charles, 1, Crystal Springs, 4, Ridgeland, 1 October 11 reports gave Jackson, Miss, 11 new cases, Poplarville, 7, Madison, 3, Harriston, 13 and 1 death, Hermanville, 1, New Orleans, 2, Franklin, 16, Wilson, 10, Houma, 1 and 1 death, Alexandria, 7 and 1 death On October 12 Oxford reported 10 new cases, Edwards, 6 and Waveland 6, New Orleans, 2 and 2 deaths, Franklin, 2, Wilson, 17 and 1 death, Baton Rouge, 10 On October 13, Jackson's record was 14 new cases and 1 death, Natchez, 6, Madison, 5, Starkville, 1, Oxford, 1 death, Hattiesburg, [illegible] new cases, Harriston, 16, New Orleans, 2, Wilson, 8, Alexandria, 6 and 1 death, Houma, 11, Amite City, 1 and 1 death, St Clair 11 and 1 death October 14, Jackson, 10 new cases Taylor's Station, 1, Poplarville, 12, Madison, 6, Waveland, 2, Hattiesburg, 3 and 1 death, Natchez, 4, Harriston, 3, Oxford, 1, New Orleans, 1, Franklin, 13 and 1 death October 16, Jackson, 8 new cases, Yazoo City, 6, throughout the State, 19 other new cases and 3 deaths, Franklin, La, 22 new new cases As we go to press, the report for October 17 gives 15 new cases at Jackson, and 23 with 2 deaths at other points in Mississippi

Proclamation of the Florida State Board of Health

OFFICE OF AGENT OF
STATE BOARD OF HEALTH OF FLORIDA,
KEY WEST, FLA, Aug 18, 1898

To the Public —On Tuesday afternoon, the 16th inst, a telegram was received at Port Tampa from the agent of the State Board of Health at Key West, stating that three cases of yellow fever were reported at the U S Marine Barracks, corner of Whitehead and Eaton Streets, Key West, but that he did not diagnose them as yellow fever Leaving Port Tampa the same night on the *Mascotte*, Key West was reached at 4 P M the following day As soon as practicable the cases reported to be yellow fever were seen, together with several cases of other sickness, which were all in the same ward and building In a careful examination and study of their histories then, and a subsequent examination this morning, I am unable to confirm the diagnosis of yellow fever

In making this statement the State health officer would do justice to the members of the medical profession here, as well as to those of the Army and Navy and Marine Hospital Service who have seen the cases, and from whom he differs in diagnostic points of symptomatology, and that he is alone in his opinion and decision but he is quite willing that any medical man elsewhere shall visit this place and investigate for himself, in fact he invites the closest scrutiny and probing of these and any other cases of sickness which have occurred at Key West this summer

The logical sequence of events must demonstrate the correctness or incorrectness of the opinion of the State health officer At the same time, being aware that no one is infallible in judgment, and that a great responsibility rests upon the State Board of Health of Florida in protecting the citizens of the State and United States against contagious and infectious disorders, and as United States Government officials have reported to Washington the existence of yellow fever before notifying the local health authorities, as required by the laws of the State of Florida and of the United States of America, the State health officer, before examining the cases reported to be yellow fever, realizing that publicity had created concern among the people of the country, desired to guard against any possible danger by giving every guarantee, therefore as a measure of extraordinary precaution, prescribes the usual regulations as if yellow fever prevailed at Key West Immunes may pass through the State, their *personal effects subject to disinfection* Non immunes will be subject to at least five days detention at U S Camp at Egmont Key Key West will remain under observation, with a view to preserving the public health, and modifications of quarantine deemed necessary will be made from time to time

JOSEPH Y PORTER, M D,
State Health Officer

KEY WEST, FLA, Sept 4, 1898

To the Public —On the 18th of August a statement was made that the State health officer had not seen a case of yellow fever in Key West among the U S Marines, who were then reported as sick of that disease, although he was only one of many of his professional brethren of both civil and military life who entertained a contrary opinion Since that time he has seen cases of similar sickness to that of the marines in civilians, and he has information of many cases like in character among the native population He does not now believe the prevailing fever to be yellow fever, because of the time of attack, in the day while at work, and not at night in bed, which latter is the invariable rule in yellow fever, the albumin in the urine of all cases examined, except in one case out of sixty, and then coming too early and disappearing too soon, the trivial gastro intestinal irritation and persisting vomiting nor gagging, a return to health with little or no medication or attention, some continuing to work with considerable fever, and the lack of fatality These are salient points, all in their absence adverse to a yellow fever diagnosis

The State health officer can not positively declare the prevailing fever to be *dengue*, although he so believes, because of the absence of a rash, which is generally present even in a limited number of cases, and thus is characteristically diagno sis This febrile disturbance now existing here, is evidently transmissible, from the "falling down" of many persons in different parts of the city, and it is because of this, and of a doubt as to the true nature of the disease, which is entertained and expressed by Dr R D Murray of the U S Marine Hospital Service, a medical expert of the U S Government, who came here at the request of the State health officer, and because further, when this doubt is known, should the quarantine against Key West from the mainland of Florida be raised, the neighboring States and the U S Government would immediately place a restrictive embargo against the whole state of Florida, that it is deemed both wise and prudent to continue the restrictions on travel from Key West for a few days longer, in the hope that the type of the disease, whatever it is, shall become so pronounced that there may be no mistaking its identity It must not be forgotten that a terrible responsibility rests upon the State and U S health authorities—on the one hand to protect the health of the people, and on the other not to needlessly intérfere with their commercial life—and that an error of judgment in the character of any transmissible disease may entail suffering, grief and great commercial disaster elsewhere in the country

The experience gained at Ocean Springs, Miss , and at Flomaton, Ala , last year when a great number of cases of "fever" developed within six weeks before a death occurred or the disease was suspicioned, "must give us pause," and the sensitively critical of our people on the subject of quarantine must not overlook the fact that there has been a division of sentiment and opinion among the medical men of the locality, as well as among the Government medical officers, which will have its impress and influence outside of Key West

For these reasons, which are considered sufficiently potent to warrant soliciting consideration, the State health officer asks that the citizens of Key West will with their usual patience bear with the health authorities of the State in this dilemma, and assist in the effort to conserve the interests of the commonwealth and of other States

Joseph Y Porter,
State Health Officer of Florida

I concur in the above
R D Murray,
Surgeon U S Marine Hospital Service

Executive Office,
State Board of Health of Florida
Key West, Fla , Sept 8, 1898

To the Public —When on the 16th and 17th of August yellow fever was officially reported to Washington by navy, army and other physicians, as existing at the U S Marine Barracks in Key West, the diagnosis was disputed on the 16th (next day) by the State health officer of Florida who had been summoned from Port Tampa to investigate the case, but as he stood alone in his opinion, he then stated that "the logical sequence of events must demonstrate the correctness or incorrectness of the opinions expressed "

On September 4 he again stated that, the "prevailing fever" in Key West was not yellow fever, but dengue However, as U S Medical Expert, Dr R D Murray, of the U S Marine Hospital Service, who came here at the request and urgent invitation of the State health officer (because of the contention of himself with other medical men, both civil and military), was not yet satisfied as to the true nature of the "fever" the indulgence of the citizens of Key West and the public in general was asked for a further delay of a few days to satisfy this doubt, before removing the restrictions on travel from Key West, which had been in force since the 18th of last month

The "logical sequence" has resulted in positively affirming the position taken at the beginning by the State health officer and by Surgeon A H Glennan, Marine Hospital Service, after his arrival here The characteristic rash of dengue has been seen in several cases on the island, and P A Surgeon H D Geddings, U S Marine Hospital Service, at the U S Marine Hospital Camp of detention at Egmont Key, wires that a passenger from Key West, August 22, developed at his camp, a typic case of dengue, with chill, fever, joint pains, fine rash, but no albumin He was sick four days, and afterward was discharged from the camp well

Again P A Surgeon L L Williams U S Marine Hospital Service, wires that he has seven cases of fever at Tortugas, three of whom have the rash of dengue

If any further confirmatory evidence is required to the observations already made here, the case at Egmont Key Camp and the case at Tortugas add a strong convincing link in the chain of substantial proof

In addition to the foregoing, Surgeon Murray states that is convinced that the "prevailing fever" is dengue and not yellow fever

Therefore the quarantine [illegible] *West are removed*

It is due however to the public to state, that dengue which is now prevailing here, is an infectious disease, causing generally several days of discomfort, but is not fatal

Joseph Y Porter, State Health Officer

DENGUE FEVER

Jacksonville, Fla , Sept 16, 1898

Dear Doctor —I have already notified you that dengue fever existed at Key West, and the necessity for not confounding it with mild yellow fever, i e , in my circular letter of the 10th instant So little has been written of late years upon this subject, however, that I have decided to take the liberty of calling your attention to characteristic symptoms which can not fail to be of help in the differential diagnosis I would not do so—for I presuppose that you are fully acquainted with dengue in all its peculiarities—but for the apprehension which would follow a false diagnosis in either case

As you know, it is an infectious disease, but not fatal, and *not quarantinable* It usually attacks or seizes one during the day time, and not, like the yellow fever, in the wee small hours—1 to 5 or 6 A M There is slight gastro intestinal disturbance No tendency to hemorrhage But a very small percentage of cases show albumin A rash appears on the decline of the fever seen frequently in the mouth when absent on the body Remissions of fever, looked upon as relapses, because recurring after the first or initial fever has been absent, a day or two The tongue of dengue is generally that of a malarial disorder—a broad, flabby and tooth marked tongue, with whitish coat Pepper's Text Book of Medicine (1893), Vol i, contains quite an interesting and accurate article on dengue by Dr Pepper himself

Very truly yours
Joseph Y Porter, M D ,
State Health Officer

BOOK NOTICES

Transactions of the Rock Island Medical Society Vol v Part iv 1897 Paper Pp 135 Illustrated Providence Snow & Farnham 1898

This pamphlet contains the proceedings of the quarterly meetings, held March 4, September 2 and December 2, and the annual meeting held June 3, 1897, also obituaries of Drs H E Turner, Charles O'Leary, A A Saunders, W E Anthony, A H Nickerson, D H Sullivan and W E Coyle, and the following papers "Specialism, the Laboratory and Practical Medicine", "The Therapeutic Value of Nebulized Fluids", "Pelvic Suppuration, Treatment by Vaginal Drainage", "Serum Diagnosis of Typhoid Fever", "A Case of Laminectomy for Spinal Injury", "Two Cases of Laminectomy", "Laminectomy in Spinal Injuries", "A Case of Tetanus, with Recovery", "Case of Asthenic Bulbar Paralysis", "The Physician upon the Witness Stand", "A Case of Cerebral Cyst "

Transactions of the Texas State Medical Association —Cloth Pp 310 Austin Eugene Van Boeckman Pub Co 1898

One of the most attractively gotten up volumes of transactions, this one is a decided addition to the physician's library The paper and presswork are excellent and the contents, comprising the usual topics found in society transactions, well arranged The volume covers the proceedings of the thirtieth annual session, held at Houston, Texas, April 26-29, 1898 The papers, as presented at the meeting, are grouped under the headings General Medicine Obstetrics and Diseases of Children, Surgery, Gynecology, Ophthalmology and Otology, and number thirty four, many with discussion appended

Proceedings of the Connecticut Medical Society Pp 445 Published by the Society 1898

This volume contains the usual data found in "proceedings," and the following papers read at the one hundred and sixth annual meeting, held at New Haven, May 25 and 26, 1898 "R [illegible] the Progress [illegible] "Angioneurotic [illegible] ngue" " [illegible] onsils", "Acou [illegible] es", "Thera- [illegible] "The Nev [illegible] phtheria [illegible] of Fifty

Cases", "Mushrooms and Mushroom Poisoning", "The Relation of Muscular Co ordination and Trauma", "A Case of Pachymeningitis Interna Hemorrhagica", "A Case of Double Homicide", "Some Remediable Forms of Sterility", "Puerperal Eclampsia", "Ophthalmic Science in Its Application to School Hygiene", "Physician Heal Thyself", "Progress of Surgery", "Progress in Gynecologic and Genito Urinary Surgery", "A Complicated Case of Intussusception", "Surgical Puerperal Septicemia" There is also a report of a committee on matters of professional interest in the State, covering "Malaria in Children," "A Certified Milk Farm" and "Interesting Cases in Practice"

Minutes of the Mayville Meeting of the Kentucky State Medical Society Paper Pp 36 Louisville John P Morton & Co 1898

These minutes are for the meeting held May 11–13, 1898, the Committee on Publication deeming it best to issue only the minutes of this session of the Society, and not the papers presented An alphabetically arranged roster of members is included The paper and presswork are excellent

MISCELLANY

Quadricentennial of the Discovery of Brazil—To commemorate this anniversary in 1900, for which great preparations are being made, the physicians of Brazil have undertaken to publish a work on "Intertropical Pathology," and the pharmacists a "Brazilian Pharmacopeia"

A Long lived Couple—Madam Henriette Simonet recently died at the Salpêtriere, aged 105 years and 6 months In 1810 she married her only husband who died Nov 18, 1890, aged 100 less 3 days Their daughter, now 78 years old, is still an inmate of the institution

Hypnotic Suggestion in the Treatment of Epilepsy is recommended by Bérillon, who has witnessed a remarkable modification of the character of epileptics to whom it was suggested to resist their impulses and neutralize their automatic habits The number of the attacks also decreased This treatment is not applicable to the insane or imbecile —*Revue Méd*, September 28

Thirteenth International Medical Congress—Brouardel is chairman of the committee of organization, with Bouchard and Marey, vice presidents, and Chauffard general secretary Lannelongue is chairman of the executive committee, which includes the general secretary and Bouchard, Bouilly, Brouardel, Dieu, Gariel, Le Dentu, Malasser, Nocard, Reymond, Rendu and Roux The Congress will open August 2

Chloroform and Gas Light Intoxication—Famulari describes the products of the combination of chloroform and gas light as free chlorin, volatile hydrochloric acid, carbonic acid, etc (*Policlinico*, June 15) Lorentz of Bochum reports in the *Zeitschft f Med Beamt* No 3, a severe intoxication following a three hours' narcosis The patient died in six hours, the attendant nurse in twenty eight and the operator was at the point of death for several days but finally recovered All had experienced a spasmodic cough during the operation —*Munich Med Woch*

Oblique Heredity—Beugnies remarks that the "newcomer who fecundates a widow mother or a girl mother, accomplishes a three sided fecundation," and mentions the following instance a girl bears a child to a tuberculous man and both man and child soon die of tuberculosis The girl returns to her native town and marries another man, but the first three children born to this couple, who are both perfect specimens of health, die of tuberculous meningitis in early childhood, and the other child growing up apparently healthy, and marrying an apparently healthy man, bears children all affected with tuberculous ganglions —*Journ de Méd et de Chir Prat*, September, 10

The Abatement of the Invective Nuisance seems at hand The "agin the government" people having had their benefit of reiterations and charges of incompetency, seem to be preparing winter quarters A short war on the whole satisfies the multitude, more particularly since the popular officers of the army have spoken freely of arrangements that were beyond criticism The medical department is now in course of vindication by "the sober second thought"

Agglutination of the Blood Corpuscles—Elfstrand announces that the poisonous albuminoids—ricin, abrin and crotin—derived from the crotin seed, produce a marked agglutination of the red corpuscles Ricin and abrin produce it in nearly every kind of blood, while crotin only affects certain kinds Two drops of blood from two different animals, impossible to distinguish by macroscopic or chemic tests, can thus be readily differentiated with crotin, human blood and pig blood, for instance, which may prove important from a medico legal point of view —*Klin therap Woch*, September 11

Muscular Rheumatism—Erben has been investigating 200 cases of lumbago and finds that the trouble is not muscular as supposed, but proceeds from an affection of the lumbar vertebræ with sensitiveness to pressure over them (119 cases) or else from neuralgia of the cutaneous nerves, proceeding from the third posterior lumbar branch, with the painful region on the buttocks instead of over the spine A third group was a combination of these two affections In the other twenty four cases it was impossible to found a diagnosis in nine, in the test the lumbago could be traced to alcoholism, to incipient tabes or osteomalacia He also attributes to the cervical vertebræ and the nerves emerging from them the etiology of wry neck, twelve cases The muscular contraction follows secondarily, as the head is twisted to prevent pain —*Cbl f Chir*, September 10

"Heart Epilepsy"—H Beer does not consider epilepsy a disease, but only a symptom resulting from cumulative irritation of the cortex This irritation may be hematogenic, reflex or traumatic, and the various neuroses correspond to varying grades of the same condition affecting different persons differently A few rare cases of "reflex" heart epilepsy have been recorded, due to arteriosclerosis or valvular insufficiency, and Beer now reports a case of epileptic attacks occurring in a woman of 50 years with hypertrophy of the right ventricle for seven years consecutive to emphysema of both lungs, causing dyspnea and palpitation at the least exertion No attacks have occurred since the five in the first three months during which he administered 2 grams bromin (Sandow's effervescent) with inhalations of oxygen and 5 gram nitroglycerin tablets twice a day —*Klin Therap Woch*, September 11

Statistics in Regard to the Sexual Life—A prominent Russian physician, whose name is withheld, writes to *Wratsch*, suggesting that some medical journal undertake the task of collecting and tabulating statistics in regard to the sexual life, to be sent in anonymously by physicians who realize the inconveniences and even dangers of the present lack of definite standards on this delicate subject, and would be willing for the benefit of science to note the particulars of their personal sexual life He suggests the following points 1 Sex 2 Age 3 Family relations, married, free love, etc 4 Masturbation 5 Age at first sexual intercourse 6 Largest number of cohabitations in twenty four hours, at what age? 7 Impotantia cœundi, at what age? 8 Ever any symptoms of any abnormal sexual impulse, at what age? 9 Ever affected with syphilis, ulc mul or gonorrhea? 10 Were there ever any abnormalities in the sexual function? He sets the example by extracts from his own note book in which for twenty-five years he has recorded his experiences on the above points, influence of seasons, etc —*Dermatol Cbl*, September

Internal Endodiascopy —L Bouchacourt, in his thesis, Paris, 398, confirms his announcement of the value and harmless ess of fluoroscopy and radiography by the introduction of a ong narrow Crookes' tube into the natural cavities of the ody, especially the vagina (*vide* JOURNAL, page 933) He tates that the static machine is the only safe one to use The acrum and symphysis can thus be inspected to the moment f fetal engagement The shadows cast by the bones in the eighborhood are much more distinct than by the usual ethods, as there are no superposed planes, and there is less ubstance for the ray to penetrate, while the screen or plate an be applied geometrically close to the organ to be inspected -*Presse Méd* , August 24

Cure Worse than the Disease, the Latter is Expelled —The physics f the sense of smell has been brought up for study and dis ussion, in a prominent fashion, by Professor Ayrton's address efore the British Association meeting at Bristol The follow ng paragraph in the *New York Sun* gives intimation that here is a physic through the olfactory sense "It is said that in ustralia there is a hotel where rheumatic patients congregate Whenever a whale has been taken the patients are rowed over to the works in which the animal is cut up, the whalers dig a narrow grave in the body, and in this the patient lies for two hours, the decomposing blubber of the whole whale closing around his body and acting as a huge poultice This is known as the whale cure for rheumatism "

The German Congress of Railway Physicians met at Cologne in September, where the arrangements for night lodgings and day waiting rooms for the employes were recommended as models The necessity of annual vacations, lasting several weeks and longer, in proportion as the service is exacting and the employe is older, was emphasized Brahmer asserted that the years of service of a locomotive engineer should be calculated double, as few ever attain the twenty five year pension limit The dissemination of trachoma by the cushions in cars was reported from the eastern provinces The inexpensive, disinfectant soap—Dr Graf's byrolin—was recommended for railroad purposes, indorsed by the higher authorities The duties of the railroad physician include, it was asserted, the hygienic supervision of employes' waiting rooms and dwellings, of their clothing and of their leisure hours, as the safety of the traveling public demands a healthy mind and body in everyone connected with the running of a railroad —*Munich Med Woch* , September 20

Electric Treatment of Catarrhal Affections of the Adnexa —The *Bulletin d'Electrotherapie* for August, is entirely devoted to a description of the cure of sixteen cases of chronic endometritis and metritis and complicating salpingitis, with or without ovaritis In one case there was also an inflammatory tumor of the right adnexa as large as an orange, in another the cervix was ulcerated All were completely cured without surgical intervention, with anatomic regression of the lesions, by Apostoli's method of electric treatment, in fifteen to twenty five minute seances Nine have borne children since All have been seen from one to several years afterward and the permanency of the cure established Negative, the continuous current (galvanic) acts as a resolvent, positive, weak, as a sedative and decongestive, strong, as a sterilizer, microbicide and modifier of the uterine mucosa The tubes contract, evacuate their contents, and the entire commotion gradually subsides

Artificial Cornea for Leucoma —T v Shroder presented a patient at the meeting of the St Petersburg Medical Society, April 28, whom he had cured of leucoma totale corneæ by the introduction of an artificial cornea made of rock crystal and platinum, with several small hooks at the rear of the platinum setting, which bore into the leucoma tissue and hold the prothesis quite firm Salzer of Munich found that rabbits bore a similar contrivance a year without inflammation Schröder's patient was blind from lime corrosion in the other eye, and the leucoma had developed after smallpox in childhood The crystal cornea showed a tendency at first to work its way forward, but a narrow band of tissue soon formed around the edges and held it in place There was no pain, no inflammation at any time and the tension was always normal He counts fingers at 2 25 meters and recognized colors The eye does not water except with very bright light, with an ordinary shield it bears the daylight without trouble An extremely delicate gray membrane formed over the back of the crystal, soon after its introduction, but it has not increased in thickness during the thirteen months since, and the results are considered satisfactory enough to warrant the application of the method on a larger scale A similar membrane formed rapidly and so thick in Salzer's one case that the vision was only slightly improved by the operation He attributed this to the profuse hemorrhage during the trephining The simple technique is described in the *St P Med Woch* of September 11

Annual Report of the Craig Colony —The annual meeting of the Board of Managers of this Institution was held at the Colony on the 11th instant, and the following officers of the Board were re elected Frederick Peterson, M D , president, H E Brown, secretary, John F Connor, treasurer The annual report of the Medical Superintendent, Dr William P Spratling, was presented and read The most gratifying feature of the report was the discharge of seven patients during the year as recovered It was also reported that marked improvement had taken place in a vast majority of all cases admitted to the institution The industrial showing for the year was exceedingly gratifying, the value of all articles grown on and manufactured by the Colony during the year amounting to $36,889 03 Eighty six per cent of all male patients and 83 per cent of all female patients were reported as engaged in labor designed to reduce the cost of maintenance The Medical Superintendent called attention to the fact that he had on file, on the first day of October, applications for the admission of over 600 patients that he could not receive on account of lack of room, and in view of the great pressure that is becoming greater each day for the admission of patients, the Managers decided to ask the coming Legislature for a large sum for dormitory construction It is sincerely to be hoped that in view of the value of this institution and its benefit to mankind, which benefit has already been amply demonstrated, the New York Legislature will see fit to grant any reasonable request that the managers of the institution may make

Fat Embolism in the Lungs from a Medico legal View —Carrara found 27 cases of fat embolism in the lungs in 102 cadavers at the Vienna Medico legal Institute It was especially noticeable in 13 out of 17 cases of fractures, the negative cases included 3 of fractured ribs and 1 of fractured ribs, sternum and radius It was found even in cases in which death had followed the injury at once There is nothing characteristic about the symptoms to distinguish it from shock and concussion of the brain The discovery of abundant and diffuse fat embolism is of great importance in deciding the cause of death The findings were positive in 7 out of 28 cases of affections of the heart, vessels and kidneys, but, of course, the fat may be derived from fatty degeneration of these organs and the not infrequently agonal injury may participate in the formation of the embolism It was also noted in the case of a boy of 12 years, whose knee had been crushed and ileum ruptured, the rapid peritoneal absorption of the fat escaping from the intestine seemed to have co operated in the production of the embolism It was noted once in 5 cases of fetal phosphorus intoxication, but in 13 cases of burns it was found 6 times He considers fat embolism an important factor in the fatal termination [illegible] bu [illegible] the liberation of the [illegible] favored by the simultaneous injury to the blood and lymphatic vessels, and also by the even momentary liquefaction of the fat by the heat.—*Munich Med. Woch.* from *Friedreich's Blatter*, No. 4.

Female Medical Inspector at Bombay.—The Bombayans, or some of them, have entered a complaint to the officials reflecting upon the action of a female physician and asking redress, by means of a considerable outlay of British gold, for an alleged desecration of one of their temples by her. It would appear, says the *Missionary Review*, that this physician, acting under a governmental appointment, had entered the temple in search of cases of plague. That the sensibilities of this people are very acute will be seen from the following quotation from their petition, which says: "This lady, against our most serious remonstrances, entered into the temple and desecrated the same and rendered it unfit for worship and for other religious purposes for which the same was established. By the aforesaid unlawful conduct of the said lady, your petitioners and their coreligionists have suffered considerable mental affliction, and their religious sensibility has been rudely and unnecessarily disturbed. Your petitioners further state that the efficacy of the said temple as a place of worship and religion having been destroyed by the desecration aforesaid, it will cost a considerable sum of money to celebrate the ceremonies and perform the religious rites necessary to purge the said temple from its desecration aforesaid, and to make it available again as a place of worship and religion, although not in their pristine state."

Professional Liberty and Practical Puericulture were the subjects treated at the recent Italian State Medical Congress at Venice. The absurdity and dangers of placing hospitals and asylums in the hands of non medical political campaign workers were discussed and the constant restrictions of the professional liberty of the physicians in charge, and physicians in general, described and denounced. A committee was appointed to investigate the subject and suggest means to remedy the existing conditions, which in many cases tend to defeat the objects for which the institution was founded. Massalongo described the way in which infants are sacrificed to inherited traditions and prejudices by the ignorant agricultural class, kept in a dirty bed in a smoky corner of the kitchen, all the light and air entering by a single door, the floor, the damp, trodden earth, covered with the excrements of domestic animals. The infant remains there a large part of the day, if not all the time, fed with extreme irregularity, the doorshut "to keep out the cold in winter, the heat in summer." The modern bacteriologist could not imagine a better culture for infective germs of all kinds. "Dirt seems to be one of the conditions of the existence of the contadini; a bath, sponging off with cold water, is in their opinion the cause of every ill." Even the better classes are ignorant of infant hygiene. He urged a rigorous propaganda on the part of physicians, citing what has been accomplished in France where the Roussel law, vigilant inspection and supervision of nursing children, assistance of mothers during pregnancy and confinement and penalties for desertion and maltreatment, are already accomplishing remarkable results in diminishing infant mortality and raising the physical standard. He recommended the establishment in each province of a committee for the protection of nursing children with a sanitary inspector and assistants who would instruct the people in the principles of practical puericulture, and also suitable legislation.—*Gazz. d. Osp. e d. Clin.*, September 18.

Superintendent Can Contract.—In the case of the Mt. Wilson Gold & Silver Mining Company vs. Burbidge, brought by the latter party against the former, there was evidence that when a certain miner in the employ of the company was hurt, the general superintendent had him taken from the mine to the mill, and ordered him taken from there to town. No witness stated that the superintendent ordered him taken to the plaintiff's (Burbidge's) hospital, but it was in evidence that the superintendent was at the hospital the next day, and told the plaintiff to take good care of the man and it would be all right. This evidence, the court of appeals of Colorado thinks, was sufficient to justify a finding that the services of the plaintiff were rendered at the request of the superintendent. After further stating that this miner, while in this mining company's employ, was injured by machinery which the latter's superintendent was engaged in operating for it, and that his injury required attention, the court says that it does not think that his removal to the hospital and his nursing while there, were so disconnected from the mining company's business as to be outside of the presumptive authority of the superintendent. As to the company's order that no more bills of that kind should be paid, after paying some of the bills occasioned by the injury, among which was the carriage bill, the court says that the fair inference from this is that before the order was made the superintendent had authority to contract such bills, and that the order was intended as a revocation of that authority; that as the order was issued after the carriage bill and the other bills to which it had reference were contracted, it was to be presumed, nothing appearing to the contrary, that it was issued after the services of the plaintiff were engaged; and that, the plaintiff having been suffered to nurse and care for the injured man until he was cured, without being notified of the order and relying on the responsibility of the company, its failure even to make an attempt to rebut the presumption of its superintendent's authority, inasmuch as the facts were in its possession, amounted, under the circumstances, to an admission that he was possessed of the necessary power.

Cervantes as Patient and Physician.—A recent medical thesis, accepted by the University of Paris, had for its theme the medical aspects of the life of the immortal Spanish author, from which the *British Medical Journal* has culled not a few interesting facts, among which is the tradition that Cervantes both studied and practiced the healing art. He was born in October, 1547, passed a life full of ill health, suffering and misfortunes of every kind, and died on April 23, 1616. He contracted malaria during a visit to Rome early in life, and on the very morning of the famous battle of Lepanto, Sept. 7, 1571, he was so ill with ague, that the captain of the vessel on which he served tried to induce him to remain below. He insisted on fighting, however, and received three arquebuss wounds, two in the chest and one on the left hand, which was permanently disabled. He was six months in hospital at Messina, and his wounds were yet incompletely healed when four years later he was made prisoner by Algerian corsairs on the high seas, Sept. 26, 1575. For five years he was held captive by the Moors, suffering much ill usage at their hands, but at last forcing them, out of fear of the influence which his indomitable spirit gave him among his fellow prisoners, to set him free. He died of dropsy, probably of cardiac origin, but there is really no evidence on the point. There is a tradition that Cervantes studied medicine, and there are in his works many passages which show that he had a considerable acquaintance with the art of healing as it was understood in his day. During his Algerian captivity he ministered to the needs of his fellow-prisoners in sickness with a skill which bespeaks, if not special training, a considerable experience in dealing with disease. How close and accurate an observer he was is shown by the wonderful picture of delusional insanity which he gives to "Don Quixote." The writer of the thesis points out that he anticipated Pinel in the rational treatment of insanity. The books of chivalry which disordered the brain of the Knight of the Sorrowful Countenance are destroyed, and every effort is made to create a new environment for him, his very delusions being skilfully taken advantage of to this end. It is somewhat strange that the writer should have made no reference to Sancho Panza's famous physician, who, in his strict view as to diet, may perhaps be looked upon as the scientific forerunner of Sir Andrew Clark He quotes, however, an apothegm that the "stomach is the laboratory in which health is manufactured," which shows that Cervantes had very sound views as to the important relations of the digestive to the other functions of the body

Amber in Medicine—The ancients employed amber as a medicine, and it is still prescribed by physicians in France, Germany and Italy Several chemists in Paris keep it constantly in stock It has been worn by ladies and children from time immemorial as an amulet, sometimes carved into "amphoræ," and has been pronounced of service either taken internally or worn around the neck Callistatus gave the name of Chryselektron to amber of a clear golden color, which, worn round the neck, cured ague, ground up with honey and rose oil, it was a specific for deafness, and with Attic honey, for dimness of sight But to come to more recent times, Pereira says in the third edition of his "Materia Medica," published in 1853, that amber was not even then employed as a medicine in this country, but that "it was formerly used in chronic catarrhs, amenorrhea, hysteria, etc, and was given either in the form of a powder, in doses of ten grains to a drachm, or in that of a tincture, a formula for both which is contained in some of the European formularies An old book by the chief pharmacist of Louis XIV of France has this paragraph "What I say may perhaps seem strange to those who do not know the great use there is of amber in China and among the savages, as well as in Europe, but the greatest consumption of it is in Austria, Germany and Poland, and in the neighborhood of Venice, and the Venetians were the first that brought it into such a vogue and fashion thereabout, there being few people in Lombardy, or along the Po, but wear amber necklaces, believing they keep them from quinzies and other ill effects of the neck and throat to which they are very subject by reason of the bad waters they are forced to drink in those parts Besides the great use of yellow amber for trinkets, it is of some use, too, in medicine, in the form of troches made from the powder, and which are given to restrain the spitting of blood and to stop dysenteries and the like Dose from ten to to thirty six grains in an appropriate vehicle, also from powder of amber with spirit of wine is drawn a yellow tincture endowed with a great many good qualities, especially in apoplectic and epileptic fits and paralytic cases, taken from ten drops to a dram in any agreeable liquor"—*Chemist and Druggist*, January 29

Denver

Dr F E Waxham has removed to Chicago The Denver and Arapahoe Medical Society has unanimously elected Dr Waxham an honorary member

Dr Hobart E Warren was appointed to the chair of Anatomy in the Denver University, vice Dr C D Spivak, resigned.

Dividends—The Denver committee of arrangements of the A M A has not only accomplished its work in a most satisfactory manner, but its finishing touches startled all the contributors to the fund, when they received dividends amounting to one third of their contributions After having distributed the dividends, Dr J T Eskridge, the treasurer, found himself encumbered by a residue of $264 54, which sum was donated to the Colorado Medical Library Association

Detroit

Bureau of Public Health—At the last meeting of Wayne County Society the question of the bureau of public health came up for consideration Dr C Henri Leonard stated that as Mr Corliss, the representative from Michigan, had practically killed the bill for the establishment of a bureau of public health, which had been presented at Washington, and which had been endorsed by every medical society of importance in the United States, including the American Medical Association, he would move that a committee of three be appointed by the president, whose duty it would be to sound the candidates for the House of Representatives and inform the medical profession in Michigan which of the candidates favored the proposed bill This man should receive the support of the entire profession, irrespective of party The motion was seconded and carried, and a committee will be appointed by the president in accordance with the wish of the society

Health Report for week ending October 15 Deaths 79, under 5 years 28, births 61, male 29, female 32, diphtheria 7, new cases 11, 6 recovered, 2 died, 10 remaining sick, scarlet fever 8, new cases 5, 1 recovered, 1 died, 11 remaining sick, smallpox 4, 4 remaining sick

The proposition to amalgamate the Wayne County Medical Society and the Detroit Medical and Library Association has fallen through The committees from the two societies for the purpose of considering this subject, came to the conclusion that, as both societies were incorporated under the laws of Michigan, it would be impossible to vote themselves out of existence without the unanimous consent of the members of both societies This, of course, was out of the question, so the executive officers of both societies concluded to drop the subject

Philadelphia

Cannon Fired by Students—On the night of October 7, some students of the University of Pennsylvania hauled a cannon into the doorway of Houston Hall and fired a heavy load which awaked the neighbors for miles around besides arousing the patients in the University Hospital to a high state of excitement and breaking nearly every window in the front part of that building A 'Student Committee," composed of the presidents of the classes, has decided to make a thorough investigation and are now making requests for all those who participated to come forward and pay for the damage to the buildings Those who confess and pay up will not be censured, but any offender who may subsequently be found will be turned over to the faculty to be dealt with in a summary manner

The Blood of Typhoid Patients—Since Woodward first originated the term "typho malarial fever," the profession has been much interested in finding out the percentage of cases of typhoid fever which may be complicated with malaria Abundant opportunity has recently been furnished from the fact that so many soldier patients have been brought to this city from infected areas of the south While report of the work done at the Pepper Laboratory has not been made public, it is stated that enough is known to justify the assertion that the two diseases *may* exist concurrently Several months may elapse before this work will be entirely completed

Mortality—The number of deaths for the week ending October 15 was 331, a decrease of 77 over the previous week and of 53 over the corresponding period of last year The principal causes of death were Alcoholism, 2, apoplexy, 13, nephritis, 17, cancer, 11, cholera infantum, 6, tuberculosis, 38, croup, 6, diabetes, 4, heart disease, 24, inanition, 12, pneumonia, 13, appendicitis, 4, marasmus, 18, old age, 15, suicide, 3, tetanus, 1, uremia, 4, whooping cough, 7

Infectious Diseases—This week Diphtheria, 115 cases, 21 deaths, scarlet fever, 18 cases, 1 death, typhoid fever, 200 cases, 11 deaths Last week Diphtheria, 107 cases, 22 deaths, scarlet fever, 25 cases, typhoid fever, 162 cases, 14 deaths

Dr White Resigns—Dr J William White, Professor of Clinical Surgery in the University of Pennsylvania, has severed his connection with the surgical staff of the Philadelphia (Blockley) Hospital, to which he was elected in 1892 It no doubt is a source of much regret to Dr White to sever his relations with this time honored institution, yet the new duties devolved upon him at the University made such action compulsory Owing to the continued illness of Dr John Ashhurst, Dr White will have entire supervision over the clinical material during the coming term The unsurpassed clinical material afforded by the Blockley Hospital makes the membership on the staff a coveted one both on the part of the recipient and also on the part of the University of Pennsylvania, which has all the privileges and advantages offered by this hospital Dr Charles Frazer, a nephew of Provost Charles Harrison, will doubtless succeed Dr White on the surgical staff of Blockley, but no definite action will be taken in the matter until the next meeting of the Board of Charities, to be held next month

PENNSYLVANIA HOSPITAL CLAIMS PRIORITY —Since the war is now over and the soldiers are being cared for in well equipped hospitals all over the land, the question has arisen as to the first one to volunteer its services after the call to arms While the *Medico Chirurgical* and *University Hospitals* have been most active in bringing the sick soldiers to this city, another hospital here produces proof of its priority in this matter A letter of Dr Thomas G Morton to Surgeon General Sternberg dated April 21, has been printed in one of the daily papers here, and serves to justify this claim

COMPULSORY VACCINATION —The Board of Health, after making investigation of the manner in which vaccination is being avoided by the children in the public schools of the city, have recently sent out a printed circular to all of the authorities of the different schools, calling attention to the following Act of the Assembly approved in 1895, as follows "All principals or other persons in charge of any public, private, parochial, Sunday, or other schools are hereby required to refuse admission of any child to the schools under their charge or supervision except upon a certificate signed by a physician, setting forth that such child has been successfully vaccinated or that it has previously had smallpox" Violations of this law will be summarily punished by the Board of Health

MEMORIAL GATEWAY —A committee has been appointed for the erection of a suitable memorial to all soldiers of the University of Pennsylvania who participated in the late war It will be remembered that one graduate lost his life early in the struggle, and the name of Osgood still lingers in the memory of all the alumni, while the unfortunate death of Surgeon Gibbs, soon after the first landing was made on Cuban soil, makes this memorial all the more appropriate To this end a large number of the Alumni Association of the University will be appointed to raise sufficient money for the erection of a memorial gateway at the entrance of the college campus at Thirty Fourth Street and Woodland Avenue

A SAILOR DEAD —The United States officials at the quarantine station on Reedy Island, near here, were recently apprised of the death of a sailor which occurred on the steamship *Banan* while in transit from Port Antonio to this city Subsequent examination proved that the cause of death was due to yellow fever The steamship had on board 15,000 bunches of bananas, which will doubtless be destroyed As the authorities have recently established a quarantine station for the purpose of guarding against the introduction of this disease, all of the necessary precautions will be taken against this vessel and members of the crew In order to prevent the possibility of the spread of the disease from this case the vessel was ordered out to sea to bury the body of the unfortunate sailor

NEW CHILDREN'S HOSPITAL – At a meeting held recently in Germantown, the public spirited citizens of that place organized for the purpose of erecting a children's hospital in that district of Philadelphia Dr Thomas Brockbank was elected president and Dr H Van Buren secretary It is proposed to model the hospital after the St Christopher Children's Hospital

CHARITY BEQUESTS —The will of Henry Pfander, which was admitted to probate recently, makes the following bequests to charity To the Jewish Hospital Association, $2000, Jewish Foster Home and Orphan Asylum, $2000, Jewish Maternity Association, $1000, Society of the United Hebrew Charities, $1000 Several other charitable bequests are made

WITHOUT A LICENSE —According to one of the papers here, a man by the name of H P Gorman of Philadelphia, was arrested at Carlisle, Pa, on October 3, for practising medicine without a license, and failing to give bond, was committed to prison, where he will remain until the November term of court

LECTURES IN SURGERY —Owing to the continued illness of Dr John Ashhurst, professor of surgery at the University of Pennsylvania, Dr H R Wharton will give the didatic lectures this year to the graduating class, under the supervision of Dr Ashhurst Dr Wharton has been assistant to Dr Ashhurst for several years, and is author of a work on minor surgery

ENSIGN POWELSON —Ensign Powelson, while on board the *St Paul*, was recently injured by the breaking of an elevator, and was taken to the Episcopal Hospital, where he will remain for several weeks, after which he will return to his home in New Jersey

VERDICT OF $3500 —At Morristown, adjacent to Philadelphia, a blacksmith by the name of William Force was recently awarded damages in the sum of $3500 against his attending physician, Dr Harvey F Scholl, for improper treatment rendered to a fractured leg

Washington

HEALTH OFFICER WOODWARD SUSTAINED —The health officer recently found it imperative to inform the Commissioners of the District, that the Freedman's Hospital authorities were violating the contagious disease regulations, that they had recently turned away a case of diphtheria from the institution and had not notified the Health Department, as required by law, of the existence of such a case The Commissioners referred the matter to the Secretary of the Interior who, in reply, transmitted a copy of the report submitted to him by the Board of Visitors to the Hospital, in which the Hospital authorities claimed to have erred in the matter through misconception The Secretary added "The attention of the Surgeon in charge of the Hospital has been called to the dereliction of duty complained of and, in the future, he will strictly comply in every respect with the requirements of the law"

SURGEON GENERAL STERNBERG'S REPLY —The following reply was sent by Surgeon General Sternberg to the Commission investigating the conduct of the war "The number of medical officers allowed by law is inadequate in times of peace The total number allowed is 192 There are at present 13 vacancies The administration of the surgeon general's office and Army Medical Museum requires 6 Eleven are on duty at medical supply depots and as chief surgeons of military departments One is at the Soldier's Home, 56 are at general hospitals, on hospital ships and at garrisoned posts Four have been disabled since the commencement of the war by sickness Five are on duty as chief surgeons of army corps This leaves 97 medical officers available for duty with troops in the field Of these 35 have been appointed brigade surgeons of volunteers and are distributed among the various army corps Since the declaration of war, the loss by death has been 2, and 23 are now absent from duty on sick leave This deficiency in regular medical officers has made it necessary to employ more than 650 contract surgeons Most of these doctors from civil life are doing good service, and many of them are thoroughly well equipped physicians and surgeons, with ample hospital experience, but it has been impossible to make a careful selection owing to the great pressure of business in the Surgeon General's office, and the urgency has been so great that it has not been practicable to have examining boards pass upon their qualifications I have endeavored, so far as possible, to obtain satisfactory professional indorsement before making a contract with an applicant The number of applicants have been so great and the personal visits of applicants and their friends so numerous, as to constitute a serious embarrassment in conducting the business of my office *In addition to this, there have been* appointed by the President eight corps surgeons, with the rank of lieutenant colonel, 24 division surgeons, with the rank of major, and 86 brigade surgeons, also 3 medical officers for each of the regiments of the United States infantry, cavalry and engineers All voluntary regiments have 3 medical officers appointed by governors of States Referring to the alleged deficiency of medical officers with the Fifth Army Corps at Santiago, I would say, that this Corps, upon leaving Tama, had with it 36 regular medical officers and 20 contract doctors, a total of 71, or over 4 per 1000 of the strength of the command, which, I was informed, was about 16,000 Additional medical assistance was sent by the hospital ship *Relief* which arrived at Siboney July 7 with 20 doctors aboard There was also some volunteer assistance by Dr Lesser of the Red Cross Society, Dr Rudberg of the Swedish Navy and several surgeons of the navy from ships in the vicinity It has not been the expectation of the medical department that every wounded man would immediately receive the attention of a surgeon No modern army makes provision for so large a number of medical officers as this would require But attached to our army there is a corps of non combatants, known as the hospital corps, which is the *organized and authorized Red Cross of the* army *At the* outbreak of the war we had 1800 hospital corps men in service At present there are more than 6000 These men wear a brassard upon the left arm, bearing the red cross of the Geneva Convention We have done our best in instructing them to give first aid to the wounded, and in the majority of cases a first-aid dressing properly applied by one of these men is all that is required All of the surgeons who have come from the front have testified to the remarkable results obtained from the prompt application of aseptic dressings by our hospital corps men and by the soldiers themselves, or their comrades The proper application of the dressings contained in the first-aid packet, which is carried by every soldier, is, under existing regulations, a matter in which every enlisted man has special instructions For some time past this instruction has been given, first by our medical officers to the company officers, and by them to the enlisted men "

Health of the District —The report of Health Officer Woodward for the week ended October 8, shows the total number of deaths to have been 111, of which number 63 were white and 48 colored There were 155 births reported, 102 white and 53 colored At the close of the week there were 115 cases of diphtheria and 79 cases of scarlet fever under treatment

Medical Society —At the meeting of the Medical Society held on the 10th inst, Dr Lamb presented the specimens and gave the history of a, valvular disease of the heart, b, a specimen from the brain showing old and recent hemorrhage and c, fracture of spasmodic origin of the sesamoid bone of a horse Dr Armstrong Hopkins addressed the Society on medical and surgical work in India She described her personal experiences while connected with the British hospitals, and as a missionary physician from the United States, and gave an account of the habits, religion, customs and racial peculiarities of the people of India, closing with an amusing account of a professional visit to one of the harems of a local King, where she met in consultation with six local practitioners Dr A F A King delivered an eulogistic address on Dr George Byrd Harrison, a deceased member of the Society Dr Frederick reported resolutions on the death of Dr Drawbaugh

Nurses' Guild —The organization of nurses known as the Guild of St Barnabas for Nurses, has just completed a three days' convention in this city Their *special object is to secure* a home for nurses in Washington and they have opened a temporary register for nurses at the Central Dispensary and Emergency Hospital The *following* physicians were elected to honorary membership Drs Shands, Mundell, Tompkins, Morse, Burnette, Hawkes, Carr, H L E Johnson, J T Johnston, *Hickling, Portman, Hiberger,* Rixey (*U S A*), *T* R Stone, Fox, Dufour, Robin, French, A A Snyder, Maddox and V B Jackson

Societies

The following recent meetings are noted

Connecticut —Semi annual of the Hartford County Medical Association, October 19

Illinois —Chicago Medical Society, October 12, Fulton County Medical Society, Canton, October 1, McDonough County Medical Association, Macomb, October 4, McLean County Medical Society, Bloomington, October 6

Kansas —Golden Belt Medical Society, Solomon, October 7

Kentucky —Clark County Medical Society, New Albany, October 4

Massachusetts —Hampden District Medical Society, October 18

Michigan —Grand Rapids Academy of Medicine, October 3, Wayne County Medical Society, Detroit, October 6

Minnesota —Crow River Valley Medical Association, Litchfield, October 6

Missouri —St Joseph Medical Society, October 11, St Louis Medical Society of Missouri, October 15

New York —Albany County Medical Society, Albany, October 10, Associated Physicians of Long Island, Patchogue, L I, October 8, Monroe County Medical Society, Rochester, October 6

Ohio —Muskingum County Medical Society, Zanesville, October 13

Pennsylvania —Luzerne County Medical Society, Wilkesbarre, October 5, Susquehanna County Medical Society, New *Milford, October 4*

Utah —State Medical Society, Salt Lake City, October 7

Wisconsin —Rock County Medical Society, Janesville, October 7

THE PUBLIC SERVICE

Sanitary Measures Against the Spread of Typhoid Infection in Camps —Surgeon General Sternberg has sent a communication to the chief surgeons of the troops in the field, commending it to their careful consideration and as of value to them in their efforts to limit the spread of typhoid fever in their commands In his letter transmitting this communication, he says that where the conditions are not entirely satisfactory for digging sinks of the proper depth, the recommendations of the Board should be adopted, and water tight troughs, as suggested, be used He invites special attention to the recommendation of the Board that "every *opportunity should* be taken to expose blankets and bedding to the sunlight," and states that infected tents, *clothing* and *bedding* should be disinfected by steam, by boiling water or by a 5 per cent solution of carbolic acid

The communication and its endorsements read as follows *The Board of Medical Officers* convened per *S O 194*, par 40, c s, A G O, Washington, D C, Aug 18, 1898, to inquire into the causation and spread of fever in the camps in the United States, beg to make the following *provisional report*

Although we are not as yet ready to come to a definite conclusion concerning the causation and means of spread of this disease, we feel quite thoroughly convinced that *the fly has* been an important factor in its dissemination We are also convinced that so long as the present method of disposing of fecal matter in the camps is continued it will be quite impossible *to* eradicate this disease *We believe that the bacilli* are now being daily disseminated by flies and that *the tentage,* bedding and clothing of the soldiers have become more or less infected with the germs of typhoid fever and we think that radical steps should be taken to destroy this infection Until this is done we are convinced that changes of camp sites will be of little or no avail We therefore feel called upon at *present* to make the following recommendations pertaining to this matter

1 We recommend that the sink be universally and wholly replaced by the following contrivances Each regiment should be furnished with three wooden boxes lined with galvanized iron and made perfectly water tight Each of these boxes is designed to serve as a battalion sink, the dimensions of each box should be as follows—length *fourteen* feet, width two feet depth eighteen inches This box should be set at a slight incline, so that one end will be two to four inches lower than

the other end If possible, there should be placed over the upper end of each box a water tap, this can only be done when water is piped into the camps When this is not feasible, water will have to be poured into the trough The lower end of this trough should have a three inch opening with a conductor leading outside the house and opening over a pit or well The box end of this opening should be guarded by a tube of the same diameter and about fourteen inches high, with a curved handle at top, by means of which it can be lifted For use each of these troughs should be filled to a depth of six inches with a 5 per cent solution of carbolic acid or, to be more definite, there should be placed in each box one hundred gallons of water and five gallons of crude carbolic acid This mixture should be thoroughly stirred The feces and urine of all the men should be received into the trough, the box being provided with a suitable cover having twelve openings A metallic trough of proper height, leading into this larger trough, may be constructed at each end for urine Once or twice a day, as may be necessary, the contents of this box should be allowed to run into the sink or well and the material should then be immediately covered freely with earth

Where lime has already been supplied to the camps as a disinfectant, milk of lime may be used in these boxes instead of the 5 per cent solution of carbolic acid, and when this is done one quarter of a barrel of lime should be mixed with the one hundred gallons of water and thoroughly stirred A similar privy of less capacity should be prepared for the officers and cared for in the same way

The care of these privies should be made a duty of the medical officer of the regiment, and he should be held responsible for their proper condition

We are convinced that typhoid fever will not be eradicated until the stools and urine of every man are thoroughly disinfected Proper utensils with sufficient soap and water should be provided at each battalion sink, such as we have described, and every man should be required, in the presence of a sentinel, placed there for that purpose, to thoroughly wash his hands on leaving the sink

2 We believe, as already stated, that the tentage, the floors of the tents and personal clothing of the soldiers, are infected and should be thoroughly disinfected The tents may be boiled It would be preferable to establish at each of the large camps a steam plant where the tentage and all clothing should be thoroughly disinfected The flooring of the tents should be scrubbed with a 5 per cent solution of carbolic acid and exposed to the direct rays of the sun for at least twelve hours We have found many soldiers sleeping on old, dirty mattresses, these should be burned Many infected regiments have been mustered out and their tentage and blankets turned in Before these are issued they should be thoroughly disinfected

Every opportunity should be taken to expose blankets and bedding to the sunlight, our inspection of various camps has convinced us that sufficient attention is not paid to this

In the opinion of the Board, no time should be lost in the inauguration and rigid enforcement of these measures Otherwise we are firmly convinced that typhoid fever will continue to prevail until late fall at least Moreover, even after the fly is paralyzed by the cold weather, the infected bedding and tentage will cause a continuance of the disease

Very respectfully,

[Signed] Walter Reed,
Major and Surgeon, U S A

[Signed] Victor C Vaughan,
Major and Division Surgeon U S V

First Endorsement

War Department—Surgeon General's Office,
Sept 30, 1898

Respectfully referred to Lieut Col Charles Smart, Deputy Surgeon General, U S Army, for remark

[Signed] Geo M Sternberg,
Surgeon General, U S Army

Second Indorsement

War Department—Surgeon General's Office,
Oct 1, 1898

Respectfully returned to the Surgeon General of the Army

The experience of the Second Army Corps during the past two months does not sustain the Board in its assertion that until radical steps have been taken to destroy infection, changes of camp site will be of little or no avail Troops, in removing from an infected site to new ground, carry with them only the infection in men in the incubatory stage Tents, clothing, blankets, etc, are disinfected by exposure to sun and air on the new ground Cases developed in infected men can be removed to hospital, and in ten days or two weeks the command will be practically free from the disease, and when camped on fresh ground will remain free from all except sporadic cases if the camp has proper sanitary government This includes supervision of the food, water supply, clothing, personal cleanliness and cleanliness of the quarters of the men, with a sufficient area in quarters, and with a flooring high enough to give free circulation of air in the sub floor space

If the sinks are 150 yards from the quarters of the men, each company sink 14 feet long and of proper depth, and the deposits regularly treated with lime and dry earth, disinfection of the excreta will be effected as satisfactorily as if previously mixed with the disinfectant material in a trough as specified

The medical officer should not, in my opinion, be held responsible for the proper condition of the privies This is the duty of the police officer—the officer of the day The duty of the medical officer is to bring insanitary conditions to the notice of the commanding officer and to make suggestions for their remedy

If change of camp site is not effected, all efforts at disinfection of clothing, blankets, tents, etc, will be unavailing, if the change is effected, disinfection other than by free exposure to sun and air will be unnecessary except in special instances of known soiling by typhoid discharges

[Signed] Charles Smart,
Deputy Surgeon General, U S A

CHANGE OF ADDRESS

Adams, J E, from 288 Huntington St to 58 Cedar Ave, Cleveland, Ohio
Church, W F, from 1942 Polk St Chicago to 5608 South Blvd, Austin, Ill
Cox, J E from Bridgeport, Cal, to Carson City, Nevada
Craig, D H, from Provincetown to 86 Charles St, Boston, Mass
Frank C P from 167 High St to Melbourne and John Detroit, Mich
Fausett, R C, from North Jackson to Olmstead Falls Ohio
Holman, C J Johnson from 708 to 626 Monroe St Chicago
Hilliard, W L from Asheville to Greensboro, N C
Hosford, S D from 2913 W 28th Ave to 3411 W 32d, Denver, Colo
Johnson W H, from Robertsdale to Dudley, Pa
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The Journal of the
American Medical Association

Vol XXXI CHICAGO, ILLINOIS, OCTOBER 29, 1898 No 18.

ORIGINAL ARTICLES

INFANTILE TUBERCULOSIS

Presented to the Section on Diseases of Children, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo , June 7-10, 1898

BY LOUIS FISCHER, M D
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NEW YORK CITY

A very large number of tuberculous children seen in the course of the last ten years is my excuse for attempting to bring this subject before your honorable body for discussion This subject is handled in a masterly manner in the text-book of Professor Baginsky, and I shall therefore follow his classification

There is certainly a decided relationship existing between scrofulosis and tuberculosis, and thus most distinguished pediatrists believe the two diseases to be identical with one another In fact, in studying the large number of cases of scrofulosis seen by me, it is more and more apparent that this disease is the stepping-stone to tuberculosis, and that one is the result of the other In former years the text books speak of the scrofulosis diathesis, and this latter condition we today recognize as the pre-tuberculous condition The infant at birth that is put on an improper food is certainly a good subject for the development of rachitis and scrofulosis In other words, the predisposing cause is certainly, in my opinion, greatly due to faulty nutrition, bad, foul smelling, poorly ventilated apartments, and add to them all other factors which are combined in the words, "poor hygiene," then it is very easy to understand why a simply acute bronchitis and an otherwise mild form of whooping-cough will persist for months and ultimately develop tuberculosis The two diseases which are most easily followed by tuberculosis are whooping-cough and chronic summer diarrhea

There are very few today that deny that tuberculosis is caused by a specific bacillus, discovered by Robert Koch The infectious character of this bacillus has so often been demonstrated, especially in adults, that we can also assume that this disease can be transmitted directly from parents to their children the mode of transmission being usually by means of the sputum coughed up and allowed to dry in the apartments where children sleep These live microorganisms can, by being inhaled, cause direct infection through the air-tubes We, therefore, regard this disease as an acute specific infectious disease, infection brought about by the introduction of the tubercle bacillus into a usually weakened or subnormal body with little resisting power, and hence the tubercle bacillus finds its proper soil, develops and infects and spreads until we have from a small focus in the beginning, a very largely distributed disease The method or the way in which a patient contracts tuberculosis is so simple that it merely requires a word, recognizing, as we do, the infectious nature of tuberculosis, it requires but the dried sputum in the house of a tuberculous patient to transmit the bacilli through the air, which will lodge in the pharynx, possibly the larynx, and may even be carried lower down into the bronchi or alveoli, and in this manner enter and infect the lung

The interesting studies of Cornet in regard to the transmission of tuberculosis are worth noting How seriously this should be considered can be learned when we study the case reported by Wassermann (Virchow Archiv), quoted by Professor Baginsky, in which a child six weeks old was infected with tuberculosis by coming in contact, in the same room, with a tuberculous man for only eight days Lehman (*Berlin Klin Woch* 1894, Nos 26 and 28) details a series of six children that had been accidentally infected by intrauterine inoculation This must, however, be carefully considered before accepting isolated cases as definite results Baginsky quotes a child from his experience, in which a tubercle nodule was transmitted by infection on the eyelid followed by suppuration This was accidentally transmitted to the child from a tuberculous person Demme, in the *Jahresbericht* of the Jenner Children's Hospital in Berne, 1889, and Deneke, in the *Deutsche Med Woch* , 1890, p 13, discusses a series of children wherein tuberculosis was accidentally transmitted by means of bandages applied by tuberculous people

That tuberculosis can be transmitted by the agency of raw milk from tuberculous cows is certainly not questioned, still it is surprising to note that even Koch does not always believe this to be the case Boiling the milk suffices to destroy all means of infection Demme reports an instructive instance in which a trained nurse suffering from lupus, transmitted and infected tuberculosis in children by means of handling their nourishment When tuberculosis speads, it attacks every part of the body, so that none can be considered safe from its invasion Many authors, among them Doutrelpoint, Lustig, Meisles, and Stricker, have found the bacillus in the blood and in the walls of the blood-vessels It can also be found in the skin, where it forms irregular ulcerations or lupus Demme has found the bacillus in the pus from an otitis He also found the bacillus in the discharge exuding from eczema Tuberculosis frequently attacks primarily the thymus, the heart, the pharynx and the peritoneum Enteritis with tuberculous ulcerations opening spontaneously have been *frequently reported* by Baginsky The numerous tuberculous joint affections with the suppurations of the bones are usually of a tubercu lous nature Weigert believed, in a report made to the *Gesellschaft fur Kinderheilkunde*, that the liver was a sort of receptaculum for this tuberculous virus, The acute form of general miliary tuberculosis is described by the French authors, Empis, Landougy, Aviragnet (Thése de Paris, 1892, de la tuberculoze chez les enfants, chapter 6, typho-tuberculosis) This is a masterly contribution to the subject of tuberculosis and will repay reading it The so called mixed infections are very hard to diagnose, unless we form a true clinical picture by these interesting observations

Diagnosis —The diagnosis of these diseases in infancy and childhood is by no means simple In fact, it is extremely difficult, and can frequently be made by a process of exclusion It resembles mostly typhoid fever, from which it can easily be differentiated by the absence of the diazo reaction Baginsky states that we must not rely upon the ophthalmoscopic examination, for the absence of tuberculosis in the choroid does not speak positively against depressence of miliary tuberculosis He furthermore states that knowing the dangers of tuberculin injections in children, he warns against using the same for arriving at a positive diagnosis The prognosis of localized tuberculosis is certainly good, especially so if radical surgical measures are instituted It has also been proven, and postmortem examinations have fortified this clinical fact, that cheesy infiltrations in the lungs have been cured Diffuse tuberculosis is, however, certainly fatal

Cases of meningitis have frequently been reported as cured by Fleischman and others This fact is doubted by equally *prominent* observers Professor Baginsky declares that he has never seen a child recover from tuberculous meningitis In my experience one child has certainly been greatly improved, although I do not believe that the disease is competely arrested I firmly believe that under the influence of treatment, many symptoms otherwise prominent are now latent, and the child's improved condition depends on the same It will take years of careful, close scrutiny to thoroughly test a single child with this terrible cerebral form of meningitis, before deciding whether it is really cured or otherwise

Less than three years ago I published a paper on the treatment of pulmonary tuberculosis, based on a series of cases which I attended in the children's department of the New York Post-Graduate Medical School and Hospital (*New York Medical Journal* for Aug, 17, 1895) One of the children herein reported was 2 years old at that time This case was reported by me at that time at the Post Graduate Clinical Society, during a discussion of Dr Crooks' paper on the value of creosote treatment in tuberculosis It was really instructive to have this case report every Monday at my clinic, and to be able to demonstrate on a patient (what we have always wished for) theoretically

Pulmonary tuberculosis frequently manifests itself without a cough, and if a cough be present without any expectoration, then we have a very different clinical picture in a child from that in an adult suffering with the same disease We may have moist râles at times, a little harsh breathing and slight elevation of the temperature Frequently there are small areas of dulness in the lung, caused by either consolidation or from enlarged and swollen bronchial glands Then, again, I have seen cases of tuberculosis in which there have been no pulmonary symptoms on either percussion or auscultation, and where the clinical history was absolutely negative In a case of this kind which I recall, the diagnosis of tuberculosis was made when the child suffered from a prolonged attack of diarrhea An accidental examination of the micropurulent discharge from the bowels showed almost a pure culture of tubercle bacilli, and thus the diagnosis was established

The symptoms upon which we have relied chiefly in making a diagnosis have been loss of weight, disturbances with digestion, a slight attack of febrile malaria, besides constant irritability Such children will frequently show very slight, if any, pulmonary symptoms, so that the diagnosis must be made by a process of exclusion Such distinct diagnostic features as the presence of cough, expectoration and tubercle bacilli, dulness on percussion, with moist râles and night sweats, as we find them in the adult, are out of the question How often do we have children brought to us with a distinct history of intermittent fever, lasting several months, and it is only when we can trace such a case back to a former infection of measles, pertussis or pneumonia, or to an infection of influenza, that our attention is directed to the possibility of there being a case of tuberculosis before us Dulness on percussion over the thorax is so frequently due to enlarged bronchial glands that it must be borne in mind when suspecting consolidation, especially is this true in those forms of so called scrofular enlargement It is, therefore, to my mind not such an easy matter to diagnose a case of tuberculosis, and it is a safe advice to follow, "to observe a suspected case of tuberculosis for several weeks, and sometimes months before giving a positive opinion relative to either the diagnosis or more particularly to the prognosis in a given case" While speaking of the prognosis, it may be proper for me to say that it is always a wise plan not to commit yourself positively as to the outcome of any given case of tuberculosis, for frequently do we find a sudden hemorrhage appearing, which may end fatally in a short time, while our patient was apparently improving and giving us hope On the other hand, let us not lose sight of the fact that a great many cases of tuberculosis (with cavities) have been cured This has been proven by postmortem examinations many times This I mention in order to demonstrate the necessity for extreme care in passing judgment upon a given case My plan is never to call a case hopeless until I am positive that all means used for relief were hopeless

Dietetic treatment —The treatment consisted of supporting diet—giving a highly concentrated form of food in as small a quantity as possible Thus, eggs and milk and expressed meat juice, and the farinacæ are chiefly used When children care for it, I frequently advise buttermilk and all forms of fermented milk, white meat, chicken, fish and shellfish, or broth made from the above at frequent intervals So much for the dietetic treatment

Medical treatment —No drug that has ever been used has been found as efficacious as cod liver oil and creosote The former I usually give in a 25 per cent emulsion, and if the stomach tolerates it, I then increase gradually, giving a 50 per cent emulsion, and if I find this well borne then I try the pure cod liver oil, giving a teaspoonful to a child under 5 years three times a day If, however, the stomach will not tolerate cod liver oil, then I use it in the form of the bath, i e, by inunction My plan is to have the child's body sponged with soap and water, then dry the skin thoroughly with a coarse turkish towel and rub the child's body, chiefly the chest and abdomen, for about five or ten minutes every morning In this manner we can frequently have one ounce of oil absorbed into the circulation

Creosote is certainly par excellence, the only drug to be used in this disease While formerly we were restricted to the use of the ordinary beechwood creosote, within the last few years chemistry has given us the creosote carbonate To Dr Holscher of the Drei-Konigenhospital in Mulheim on the Rhine, belongs the credit of having discovered the value of this drug In a letter recently received by me from the Doctor, he reiterates his former good results, and states that Chaumier and others have given as much as 30 grams per day He also refers to the fact that Professor von Leyden reports giving from 5 to 25 drops of this drug three times per day

My own experience with creosote carbonate has been limited to between forty and fifty cases I usually give children of 1 year one drop, children of 5 years five drops three times per day In other words, one drop for each year until ten drops three times per day are given There is usually a marked increase in the appetite noticeable, and a decided improvement in the cough, if any is present Symptomatic treatment is not contraindicated, and urgent symptoms of whatever nature should be properly looked into

Alcoholic stimulation requires but one word namely, that if necessary alcohol should be used, but cautiously

Hygienic treatment—This, I consider to be the foundation for an ultimate cure if properly carried out No medicine can equal fresh air and sunshine and cleanliness The bulk of our cases seen in both dispensary and private practice occur in children living in tenement houses where just the conditions above mentioned are lacking In a paper recently read before the Society for Medical Progress, of our city, Dr W Freudenthal dwells especially on the importance of sunshine and ventilation, if we attempt to cure a given case of tuberculosis

I feel that I owe you a word of apology for attempting to speak on tuberculosis, especially in a region surrounded by climatologists and men whose lives have been spent in the treatment of tuberculosis But I feel that infantile tuberculosis, as we frequntly see it in cases which are diagnosed as marasmus and allied troubles, are cases of tuberculosis

187 Second Avenue

DISCUSSION

Dr Slacle of Minneapolis—I was pleased to find the Doctor in opening his paper stated the relation of scrofula to tuberculosis that it is considered the tubercular diathesis Two years ago, just the day before I was going to deliver a lecture on scrofula before the class, I received Dr Rotch's work, and I was surprised to find that the terms struma and scrofula were not in his work at all and no explanation anywhere I wrote to him in regard to it and he responded very kindly and courteously that in dropping those unscientific terms, scrofula, struma, colic, diathesis, etc , he was but following the suggestion of the American Pediatric Society It was a question with me whether it was prudent to drop those terms and whether it could be done by any one man—they have been used so long At any rate, it seems now that it is but a tubercular diathesis Yet I have a paradox to state, which makes me suspect that its nature is not thoroughly understood I have a large clientéle among the poor Russian Jews [illegible] prone to those local manifestations which we have been accustomed to call scrofula or struma Yet I have to state that it is a remarkable fact that they are comparatively immune from tuberculosis later on Something has been said about that by some foreign writers and there has been an attempt to explain it If we admit that the scrofula or strumous manifestations in early life make them immune later to tuberculosis, then we would have to deny what seems to be an established fact, that struma is but the tubercular diathesis In regard to Dr Fischer's treatment of tuberculosis in children, there is nothing to gain Undoubtedly it is a disease of malnutrition, and undoubtedly good hygiene and good nutrition are of very great value Undoubtedly the few remedies he mentioned creosote, nux vomica, cod liver oil and alcohol, are good remedies in well chosen cases In regard to cod liver oil, we find so many young children that do not digest cod liver oil that I have come to prescribe the maltine with cod liver oil, rather than the emulsions of cod liver oil, preferably the extract of malt with cod liver oil and hyposulphites

Dr H D Jerowitz, Kansas City—In reference to tuberculosis in children the fact is that very frequently a chronic pneumonia and a case of tuberculosis are easily confounded A great many so called cases of tuberculosis in children which recover are nothing more nor less than cases of chronic pneumonia or pneumonia in the third stage with pus or a pneumonia complicated with an empyema A number of these cases, as we see, are caused by measles or pertussis, by malaria or typhoid fever, and owing to the decreased vitality, the pneumonia, instead of passing on to the resolution, proceeds to the chronic stage, and during this time the case presents the usual appearance of a case of tuberculosis, lasting all the way from several weeks to as long as five or six months As a rule we think it is a case of tuberculosis that is beyond recovery, but the case gets well The only way I know of differentiation is with the microscope and that is not always practicable with young children We can not always get the sputum, and therefore in a great many cases it is often only a question of opinion as to whether it is a case of tuberculosis or pneumonia So it seems to me a great many cases of supposed cure in tuberculosis are only cases of cure of chronic pneumonia None of the remedies suggested are new One of the chief remedial agents, I consider, is fresh air The majority of these cases live in unhygienic and unsanitary surroundings

Dr Rosa Encelman, Chicago—It is a question to me whether the Doctor has thought of the ante fetal origin of tuberculosis, either through the sperm or an ovarian genetic origin Another factor to which I wish to call attention, is the possible origin through what I have been pleased to call a scrofulous vaginitis A great many patients come to me with what I believe to be a scrofulous vaginitis By "scrofulous" I mean, as one of the gentlemen has recently said, a predisposition Such children usually have chronic glandular enlargements and all the train of symptoms which cause us to make the diagnosis of scrofula

Dr Henry E Tuley, Louisville—I think the Doctor lays too much stress upon the presence of injury I recall distinctly one case that presented itself at my clinic There was no history of any heredity or injury The patient was decidedly anemic, very much emaciated, and had a considerable accumulation of ascitic fluid The mere suggestion of an operation caused the mother to withdraw the child from our observation About five months later the patient returned again to the clinic and was entirely changed in character During that time it developed that nothing had been done There was no trace what [illegible] scitic accumulation nor [illegible] ould lea [illegible] there had been a [illegible] I [illegible] self to the surg [illegible] int This was [illegible] at once, the family consenting to this The boy improved wonderfully in the next two months and has grown stout and strong About four months later, a year and a half from the first observation, he returned with a cough and emaciation and there is now involvement of the apices of both lungs and microscopic evidence of tuberculosis These cases present such peculiarities that it seems to me the importance of the variety of symptoms should be impressed upon us Another thing the Doctor mentioned in passing is the presence of a subnormal temperature in tuberculosis I would disagree with him in regard to that, having made observations in several cases, one especially, which I reported with a forty days' record of the temperature, with a high temperature each day, never reaching normal for several weeks before the signs were present in the chest, the child finally dying of a tubercular pneumonia, the autopsy proving the diagnosis I think more often these cases have high temperatures than they have subnormal or low ones

Dr **McConnel**, of Kansas—With children, especially, it is very difficult to continue for any length of time the internal administration of any preparation of cod liver oil, in emulsion or any other form Inunction I have found a very useful method of using cod liver oil It can be applied twice daily over the abdomen and chest of the child, and the child will tolerate it better that way often than in any other way Dr Lawrence mentioned rarely finding the condition in males and also rarely finding it idiopathic I wish to mention a case of a young man with tubercular peritonitis, the origin of which was traced to an injury received from a fall off a bicycle That is the only instance I have encountered in which it came in that way About ten weeks previous to this case applying for medical aid, the boy gave a history of having fallen from a wheel and struck on the right handle of the bicycle in the right iliac region The pain was so violent that he said he fainted and was unable to stand or walk for several minutes From that time his health began to decline, his appetite failed and he became emaciated, thin and anemic His parents became solicitous for his welfare and consulted several surgeons There was considerable diversity of opinion in regard to his ailment Some considered it peritonitis Until an operation was performed, the character of the case was not cleared up There had been a general peritonitis of the abdominal cavity, but the appendix was not involved The adhesions were many, both of the mesentery and the intestines A laparotomy was performed and drainage used, which greatly improved the child's condition That has been three months since, he is not well to day, but he has improved

Dr H B **Whitney**, Denver—In regard to Dr Lawrence's paper, I agree with him, especially as to diagnosis I think he has laid stress where it should be laid, especially on the pain where there is much emaciation, the slow development of ascites, and together with that it seems to me is very common the presence of masses of induration or irregular tumor masses here and there scattered over the abdomen These things have seemed to me to be of great importance in the diagnosis of tubercular peritonitis I would also like in this assembly to lay special stress on what seems to me to be an unquestionable fact, and that is the comparative immunity of children of tubercular parents here in Colorado I merely wish to suggest to you very earnestly whether it should not be more carefully considered as to the sending of children here to Colorado, who are strongly predisposed to the development of tuberculosis We do here see a certain number of affected joints and some cases of peritonitis, but in the main children here grow up with a decidedly less predisposition to tuberculosis than elsewhere Where the parents of the children have not developed tuberculosis to such an extent as to compel them to go to Colorado, it seems to me we should consider very carefully whether it would not be wise to send them to Colorado for the sake of the children

Dr **Edwin Rosenthal**, Philadelphia—In the institution with which I am connected, little children picked up on the streets, died in a few days and on postmortem I found nothing at all but tubercular peritonitis Further dissection revealed only an enlarged lobe in the lungs These were little infants that probably perished from exposure and neglect In this home we receive all sorts of children found on doorsteps and so on This brought me to think that the condition of tubercular peritonis is found in infants perhaps more often than we give credit for The so called inflammations of the bowels are often of tubercular character Tubercular peritonitis follows measles as well as whooping cough, and when we have cases of whooping cough or measles that have recovered, we must not discharge the patients too soon, for they are never thoroughly well until months afterwards In fact, we should keep them under observation for at least six months afterward In the case of simple whooping cough, which the Doctor said, if it had any hereditary history, might turn out to be a case of tubercular gland disease, and would end in tubercular disease, if it were a case that had a tuberculosis for an inheritance, it would easily turn into tuberculosis of the knee or hip joint, and the proper etiologic factor would be such diseases as whooping cough or measles

Dr **Louis Fischer**, New York City, in closing —In reference to the remarks of the gentleman who found so many cases among the Russian Jews, I believe that is true because they adhere so closely to the Biblical teachings It seems they have a certain form of inspection which is a sanitary measure They inspect the bronchi and lungs of all animals slaughtered, and if they find nodules and disease, or if they can not inflate the lungs, the animal is rejected Unfortunately, those of us who have strayed from that practice are as prone to that disease as anybody else I purposely went into the matter to find why people with external manifestations of the disease did not develop tuberculosis, and I believe it is simply because the vital factor is not introduced, namely the tubercle bacillus The gentleman stated that where cod liver oil was not tolerated he gave malt I am heartily in favor of giving malt, but the same objection open to cod liver oil is open also to malt, that where the stomach will not tolerate cod liver oil it will not tolerate the action of malt For that reason I have discarded the use of malt When I was associated with Dr Chapin of New York, I noted the weight of children taken before and after inunction Nothing was given but cod liver oil externally, and we were surprised to find how much good could be done in that way Dr Jerowitz of Kansas City mentioned the fact that it is difficult to get the sputum of children in order to make a diagnosis I remember one case at the Post-graduate, in which we were baffled in making a diagnosis The child had a slight elevation of temperature It was one of the cases in which we suspected the possibility of intermittent fever We examined the blood and found no plasmodia On examination of the lungs no evidence of tuberculosis was found, yet examination of a little mucus discharged from the bowel showed the tubercle bacillus The guaiacol treatment is one I use also Fresh air was mentioned and I mentioned the value of sunshine In fact I was very anxious to hear Dr Whitney's views of the value of the climatic treatment, for which my paper was purposely intended The Doctor stated that he found a certain immunity among children in this climate I believe we could secure the same immunity if we had continuous sunshine and fresh air and the value of pulmonary gymnastics I believe where we have little girls from 6 to 10 years old in the East, by making them inspire and expire in the parks, we do more good than by any other means I do not believe the drug treatment of tuberculosis is the real treatment, but sunshine, fresh air, massage, anything plus oil, plus nutrition, are the vital factors in the treatment of tuberculosis

Dr F F **Lawrence** Columbus, Ohio, in closing —I believe

I stated that where we had ascites in the absence of heart, kidney or other visceral lesion which would give rise to ascites, that is presumptive evidence that the peritonitis is tubercular I agree with my friend from Louisville that there are a great many cases not of tubercular character In regard to aspirating, I do not use the aspirator at all about the abdomen I do not like to think that I may plunge the aspirator needle into a loop of intestines and have to make an operation to close the opening Like a great many things (Kentucky whiskey, for instance) it is all right in its place In regard to the remarks of my friend, Dr Tuley, who said, I believe, that I laid too much stress on injury, I said that in cases in which there is a tubercular affection in some other part of the body there may be no injury I still say and believe that it will almost if not quite universally be found that there is some mechanical injury to the abdomen some time before As to when we should commence treatment, the time to begin active treatment in tubercular peritonitis, that is when to operate, is just as soon as we are satisfied that we have a chronic peritonitis, whether tubercular or not We are not justified in taking the chances, of the effusion becoming absorbed and the patient recovering, when an incision and drainage is practically without danger The whole subject of tuberculosis is unsatisfactory so far as its curative treatment is concerned Tubercular peritonitis in children is much more likely to be severe and is likely to follow upon some tubercular condition in some other part of the body

SOME DISEASES COMMON TO THE FEEBLE-MINDED

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo , June 7-10 1898

BY MARTIN W BARR, M D ,

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ELWYN PA

I count not the least valuable to myself of my former collaborations with the late Dr Isaac N Kerlin a study that, we made together—with intent of reducing to tabulated form—of those diseases most common to the feeble-minded This study involved the examination of medical records of 1400 cases, covering a period of twenty-five years, and I have since extended it so as to include some 3000 cases Sifted out, we find the diseases, some eighty in number, distributed equally among the sexes, and in varying proportion in the different grades Broadly considered, there are three conditions or classes which the feeble-minded present to the eye of the medical observer, with modifications of course in different grades, causing the individual, therefore, to repel or to succumb to disease each in a different way We have, first, a physical development according to age, susceptibilities to pain or pleasure being almost normal, and the mental development fair, but limit reached in early youth, what we would call mentally feebly gifted but physically normal, meeting disease much as do normal people under similar environment and with average longevity Second, are those undeveloped in mind and body, as the cretins, for instance, predisposed from birth to certain forms of disease and an easy prey to any

In marked contrast are those who exhibit almost entire habitude to pain, able even to endure amputation without flinching and rather enjoying anything that gratifies the egotistic sense or that brings the individual into notice He is ignorant of pleasurable sensations, absolutely devoid of sympathy with his kind, and being absorbed in self, his thoughts are constantly inverted It is from this class that many of our criminals are drawn For them the gallows has but few terrors and they suffer the extremes of heat or cold, and even the pangs of hunger, without the consequences common to those of ordinary type

Lastly, those physiologically old, who either wear out in childhood of "old age," or else, as old people too feeble to resist sudden attack, die in youth or early childhood Included in this class are those who seem made of such poor material—whose tissues necropsy reveals as absolutely worthless—that they are unable to resist disease or any nerve storm, and simply go to pieces Reviewing these peculiar types the physician ceases to wonder at various apparent anomalies one constantly encounters in our hospital wards Here one falls and passes away from slight cause that would hardly affect a normal babe, another, at the very gate of the grave, with hardly a pulsation or a breath, will suddenly revive and recuperate as a normal person could hardly do

The major nervous diseases, such as Friedreich's ataxia, syringomyelia and hydromyelia, which one would naturally think allied to brain diseases, are practically unknown Anterior poliomyelitis is occasionally found, but the most common nervous diseases are the cerebral palsies of childhood Meningitis is also common and confined almost exclusively to boys of the high and middle grades Hysteria is peculiar to these grades, but occurs most frequently among the girls, as do the various neuralgias True chorea is rare and found not at all among the lower grades, and only in about 5 per cent among the higher, although choreiform movements are fairly common Epilepsy claims about 20 per cent of the feeble-minded, chiefly of the imbecile and idio imbecile class, and is seldom seen in the idiot, either apathetic or excitable

There is much hereditary predisposition to lung troubles which, coupled with lack of resisting power, renders such complications as phthisis and pneumonia inevitably fatal Asthma, bronchitis and pleurisy are not frequent, nor is laryngitis, while tonsillitis, pharyngitis and rheumatism are common among all classes, the latter among the boys of the higher grades Ephemeral fever occurs with the temperature running so alarmingly high that fatal results seem inevitable, and then as suddenly subsides in response to the simplest remedies

Cutaneous affections are rare among the high and middle grade imbeciles, though frequently met with in the low grade and idio imbeciles, due doubtless to inertia and the sluggish and unclean habits that characterize these classes Eczema is common, lingering and persistently returning in spite of most careful treatment Rupia escharotica, tinea, acne, alopecia, impetigo, herpes, erythema nodosum and urticaria are among the list of cutaneous diseases Acne sebaceum or "butterfly disease," of which but twenty cases, including three of my own, are reported, seems to be confined exclusively to the lower grades of mental defectives Ulcers are frequent, especially on the upper and lower extremities, and are obstinate in responding to treatment

The sluggish habits of these children find the usual results in constipation, dysentery, diarrhea, dyspepsia and gastritis Gastric ulcers are found occasionally among the boys, with the girls never Enuresis is common among all grades and is often [illegible] Hemorrhoids are

are common among the higher grades of both sexes, as are also hernia and prolapse of rectum Deficient circulation is almost exclusively confined to imbeciles of the lower grades, thus cyanosed hands and legs and blue lips are characteristics of the idio imbeciles, as also of the grades of the Mongolian type, who often develop scrofula Syphilis is rarer among the feeble-minded than is generally supposed

Defective vision due to errors of refraction is found among 90 per cent of the high and middle grades, and among the low grades there is much conjunctivitis, iritis, corneal ulcer and blepharitis Tests and also class work in the schools reveal a fair possession of color sense, and color blindness is the exception rather than the rule

Absolute deafness is equally uncommon even among the members of the idio-imbecile and idiot class, although partial deafness is occasionally met with Both sexes are subject to otorrhea, and especially to otitis media Hematoma auris is met with in 25 per cent of boys, and is confined almost exclusively to the left ear I know of but one case double Adenoid growths are a fruitful cause of the speech defects found in the high and middle grades, and their early removal greatly facilitates that training in articulation which holds an important place in all schools for defectives

This rapid résumé of a subject of which the limits of this paper will not permit more than a glance may, I trust, be the means of eliciting notes of similar experience from others engaged in work among the mental defectives These collected may in time form a sound basis of theory such as may aid materially in the practical work of the future in our hospitals

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ARTIFICIAL FEEDING OF INFANTS, ESPECIALLY IN GASTRIC DISTURBANCES

[ABSTRACT]

Presented to the Section on Diseases of Children, at the Forty ninth
Annual Meeting of the American Medical Association
held at Denver Colo July 7-10 1898

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Gastric disturbances of infants are due mainly to improper food The food may be at fault in quality or quantity Rarely cases of congenital malformation or deficiency are met in which the usual food preparations do not agree If the disturbance is caused by the food and is not due to some deficiency in the baby's stomach, the first inquiry regards the source of the food If the food is mother's milk, the health and temperament as well as the disposition of the mother must be observed If the mother's milk is acid the administration of a little lime water to the baby after each nursing may remove the difficulty Mother's milk may contain too great a relative proportion of proteids and constant functional disturbance in the baby's stomach arise In this and other cases mother s milk may have to be abandoned and some form of artificial food prescribed If the disturbance has continued until organic injury of the stomach has supervened (as chronic gastritis) additional modifications of food may be required The food may require complete or partial predigestion or peptonization Under such circumstances it is often a long and tedious task to find a preparation of food which will entirely remove the condition and relieve the symptoms

Next to mother's milk, cow's milk is the proper food for infants This must be modified so as to correspond to mother's milk Each case requres special investigation If there is constipation and a poorly nourished condition of the patient, cream should be given in larger proportion than in cases of well nourished infants, with a tendency to diarrhea Bearing in mind the fact that normal human milk is alkaline while cow's milk is neutral or acid, a necessity will be recognized for using a little lime water with the cow's milk Sterile milk should be used If proper precautions have been taken in milking the cow and the milk is passed *at once* into sterilized bottles, a healthy cow's milk *is sterile* and needs no heating except to raise it to proper temperature for feeding the baby, about 98 or 100 degrees F The milk must be analyzed, and then by comparing with normal human milk a formula can be given and the milk prepared as needed

Human milk contains water 88 4 per cent , fat 4 per cent , lactose 6 5 per cent , proteids 1 8 per cent If a cow's milk is found to contain water 87 3, fat 4, lactose 5 69, proteid 2 80, a simple calculation shows that to reduce the cow's milk to the equivalent of mother's milk it is necessary to add 57 1 per cent of water To prepare 500 c c of this modified cow's milk from the specimen here given will require 312 c c of milk and 178 c c of water (174 water and 4 lime water) To this must be added 9 c c of cream and 10 gm of lactose

When it is not convenient to analyze the milk, a good average food may be thus prepared Skimmed milk 300 c c , water 166 c c , cream 30 c c , lactose 8 gm , lime water 4 c c If constipation occurs, increase the proportion of cream, if diarrhea, reduce the amount of cream or increase the proportion of lime water Sometimes colic and even diarrhea may be caused by the proteids in cow's milk and it is found necessary to reduce the quantity of milk and increase the proportion of cream

It occasionally occurs that summer heat, or some condition of the stomach, may cause such digestive disturbance that cow's milk must be totally discarded When such is the case, evaporated milk, malted milk, malted meat, milk food, and similar commercial preparations may be tried, selecting with a view to the conditions prevailing in individual cases

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SOME PERSONAL EXPERIENCES IN INFANT FEEDING

Presented to the Section on Diseases of Children at the Forty ninth
Annual Meeting of the American Medical Association
held at Denver Colo June 7-10 1898

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There is no question in pediatric medicine which at the present time is exciting more interest, and justly, too, than the subject of artificial feeding of infants Where the mother has well developed breasts, containing a plentiful supply of good milk the question of infant feeding is an easy one, and it is not the object of this paper to discuss the question of breast feeding, or even to touch upon the manner by which, as far as our knowledge at present reaches, the lacteal secretion in the breast can be modified by food and general hygiene It is our intention to dwell in a brief manner only on the subject of the feeding of infants by artificial means, first, by foods derived from the milk of the cow or other animal, second, by foods made more or less directly from the grains In the study of this question we have made our observations chiefly in the infant's clinic of the Polyclinic Hospital of Philadelphia, as district physician among the poor in one of the most populous parts of that city, and also among our private patients

The indications for the withdrawal of breast milk and the adoption of artificial feeding are that whenever the mother or child is suffering from a continuance of breast feeding, the child should be weaned As special indications we would mention syphilis, either in the mother or child, tuberculosis or other wasting disease, and any of the exanthemata in the mother Pregnancy and menstruation frequently so alter the composition of the milk as to require weaning Hard work, poor food, and general bad hygienic surroundings may render the mother's milk unwholesome for the child Whenever the milk is below par in quality, this being evidenced by less than the normal gain in weight from week to week on the part of child, or where the breast milk for some unaccountable reason disagrees with the child and can not, after a reasonable attempt, be so modified as to suit the digestive organs of the infant, the latter should be weaned Women with uncontrollable nervous systems make, as a rule, poor nursing mothers, so that this alone may be a cause for the substitution of artificial feeding Occasionally we find infants whose digestive systems are too weak to assimilate their mother's milk, these children generally thrive better on modified cow's milk than from the milk in their mother's breast With our increased and more accurate knowledge of infant feeding, especially by the use of modified milk, the scope of what is generally known as artificial feeding is so widened that we often find an infant will thrive much better when fed by this means than from breast milk In discussing the subject of infant feeding we will briefly consider 1, feeding by the modified milk of animals, particularly the cow, *a*, cow's milk modified at home, *b*, cow's milk modified in laboratories, 2, Gaertner's so called fatty or mother's milk, 3, condensed milk, 4, proprietary foods

Modified milk —The milks of many animals, notwithstanding quite marked differences in the proportion of their chemical constituents, may be so modified as to closely resemble the milk of the human female It must, however, at the same time be borne in mind that the digestibility of the mixture does not entirely depend upon the fact that the proportion of the various elements (fat, sugar and proteid) may be so arranged as to closely resemble human milk, but the character of these elements must be as near as possible to the latter Thus, as everyone knows, the proteid of cow's milk is far less finely divided and is tougher and less flocculent, when precipitated by hydrochloric acid or rennet, than is the proteid of the milk of the goat or of the human female The proteids of different breeds of cows also vary thus the Devons, Durhams, Ayrshires and Holsteins, give milks the proteids of which are more finely divided, not only as regards their division in the emulsion of the milk, but also in the precipitated proteids, than the same elements in many other breeds of cattle notably the Jerseys The fat of milk must also be in nearly as fine a degree of subdivision as is found in human milk, and in this the milk of animals differs much, even among various breeds of cows there is found a wide difference, the Holsteins, for instance, giving a much finer emulsioned milk than probably any other breed As a rule a breed of cow noted for giving the best milk for buttermaking is not the best for infant feeding, because the milk which makes the best butter is one with large fat globules, i e , a coarse emulsioned milk, while as we before stated, a milk for infant feeding must be in a state of fine subdivision, in other words a fine emulsioned milk, As in by far the largest number of cases we are compelled to depend upon the cow to act as a foster mother for the human infant, we will only take the time to merely *touch* upon the question of the milks of other animals

Goat's milk is often of great service in infant feeding, the animal is easily obtained, is not expensive and is not hard to keep Its milk is well taken and assimilated by infants It is also capable of considerable modification An analysis of goat's milk which the author had made shows the following proportions of its constituents

Goat's milk —Fat 5 85, proteids 1 49, sugar (lactose) 5 11, mineral matter 0 88, water 83 67

This is to be compared with the relative proportions of fat, proteids and sugar in cow's and human milk

Cow's milk –The Walker Gordon Laboratory Analysis —Fat 4, proteids 1, lactose 4 50

Or human milk, same analysis Fat 3, proteids 1, lactose 6

It has been the author's experience, however, that in goat's milk the toughness of the proteid elements and their divisibility, vary more with the diet of the animal than do the proteids in cow's milk Ass s milk is said to prove satisfactory, but we have had no experience whatever with it Various preparations of milk, such as Koumys, Kephir, etc ,we have used but seldom These undoubtedly have some use for the nourishment of infants with feeble digestion, but their long continuance can not be recommended In view of these facts we return to the consideration of cow's milk

The composition of cow s milk differs considerably from that of the human female In the former the proportion of proteids is considerably higher than in human milk, and the character of the casein is tougher The proportion of fat is nearly the same in both possibly somewhat larger in cow's than in human milk There is, however, such an enormous difference in the analyses of cow's milk made by various observers that it is extremely difficult to get a standard test upon which to base our calculations The proportion of sugar is decidedly higher in human than in the cow's milk and the degree of alkalinity is slightly greater in the milk of the human female The object in modifying cow's milk is to bring the proportions of the various elements as nearly as possible to those of human milk Thus we add water in order to dilute and thereby decrease the considerable excess of proteids, but as in so doing this the sugar and fat are reduced below the proportions found in human milk, we must add these elements in the form of cream and sugar of milk or cane sugar This is the fundamental principle for modifying milk Milk in some form is undoubtedly the food for infants, as during the early months of life the starch digesting functions of the digestive organs, while perhaps not absolutely undeveloped, are incapable of continued action Allowing then that milk is the best food for infants, and that cow's milk can be so universally obtained, we consider that modified milk is the simplest and cheapest food that can be used, and in our experience its results are far superior to any patented infant food It is also capable of an almost endless variety of changes in the proportions of its principal constituents, and on this account it can be adapted to the digestive organs of almost every infant, if only a little care in the study of the case is exercised The next question is, how milk should be modified The proportions of the various elements must be arranged to suit the digestion of the individual child that we are treating, and frequently many changes must be made in the modifications before the desired result is obtained We have arrived at the desired point when a child previously illy nourished gains as does the average breast fed baby, of the same age and in good health As a pioneer in this branch of medicine the profession owes a large debt to Professor Rotch of Boston, and it is upon his most carefully computed tables that most of the scientific knowledge of the use of modified milk for infant feeding is at present based throughout the world

Home Modification—In treating the subject of home modification the author intends giving more of his own clinical experience than to the consideration of the subject as found in accurately compounded tables based on calculations involving a deep knowledge of high mathematics We have not infrequently seen these demonstrated at society meetings, and in journal articles as being "short and easy methods of calculating the proportion of the various elements of milk" In many cases these short methods occupy one or two blackboards, or two or three pages of a journal article in the working out The knowledge of the average mother does not extend this far, neither has the general practitioner time to spend all of one set of office hours in working out these problems However, a thorough knowledge of the method of computing these formulæ should be well understood by all those who are special students of pediatric medicine In our own experience it seems to be most important to get some formula as a basis, and to vary the proportion of the elements therein until a modification is obtained, which will suit the digestion of the particular case we are treating We can make few general rules in infant feeding, each patient must be studied from its own standpoint In our hospital work we are in the habit of taking as a basis a prescription such as the following, this being one of Rotch's formulæ Proteids, 1 00, fat, 2 50, sugar, 6 00, lime water, 5 00

This can be made as follows allowing that the cream furnished the average household does not contain over 10 per cent fat, and this generally happens Cream, 5 oz, milk, none, lime water 1 oz, water, 14 oz, milk sugar, 8½ teaspoonfuls In this formula we purposely kept the proportion of fat and proteids rather low, to allow for the greater toughness of the cow proteids This milk mixture we are in the habit of giving Pasteurized, that is, heated to about 170 degrees F The quantity for a child of three to five months is usually from four to six ounces, and the interval of feeding every three hours during the day (from 5 A M to 10 P M) and once during the night It is of the utmost importance that a baby be fed at regular intervals, and if the child is asleep when the feeding time comes it should be awakened If the above formula agrees it should be continued as long as a suitable gain in weight occurs, and the digestion remains in good condition As a rule we are in the habit of increasing the proteid and fat and decreasing the sugar as the child grows older Should any symptoms of indigestion arise the proportions must be changed A little study of the subject will quickly tell us which one of the elements is at fault It is only necessary to call your attention to the fact that where the proportion of proteids, for example, is too high the child will have colic, irregular attacks of diarrhea and constipation, the vomiting of curds and curds in the stools, or where the proportion of sugar is too high there will generally be frothy stools, acid in reaction, frequently producing considerable irritation of the parts around the anus, etc

For home modification among our out-patient infants in the Polyclinic Hospital we generally use the following method As soon as we have determined to wean the child, and have satisfied ourselves that the digestive organs are in a healthy condition, we place the patient on some such formula as the one before given, the prescription being filled in on a printed form, such as the following

Feeding—Milk mixture of ounces Fresh milk teaspoonfuls or ounces Boiled water teaspoonfuls or ounces Fresh cream teaspoonfuls or ounces Sugar of milk teaspoonfuls or ounces Peptogenic milk powder measures Lime water

After mixing the above in a nursing bottle, place the bottle in boiling water for ten minutes, but do not allow the mixture to boil Let it cool sufficiently before giving it to the baby Feed the baby every hours and once during the night

Keep the baby in the arms while feeding and hold the bottle for it

Do not allow it to lie down and nurse itself

Have two bottles and two nipples, and alternate in using them

If the child does not take all of the milk *throw the balance away* Do not keep it

After using it scald the bottle and nipple with boiling water, then fill the bottle with water containing some bread soda or borax

Put the nipples in a cup or glass and cover them with some soda or borax water Keep them there when not in use

Before using again rinse both the bottle and nipple with boiling water Never use tubes

Drink—A baby needs water Give it from one to four teaspoonfuls several times a day Boil a bottle full in the morning, and cork it up and keep it in the refrigerator for use during the day Use only water that has been boiled

Bathing—Wash the baby once or twice every day in warm water with castile soap Sometimes a little rock salt added will be good

Clothing—Have the bandages of wool, and not too tight Tight bands keep the baby from breathing freely The rest of the clothes should be cool Have clean clothes every day if possible

Change the diapers as soon as soiled, and wash the parts while doing so Never use a diaper that has not been washed thoroughly in boiling water

Fresh air—Take the baby out in the morning and evening in hot weather, and keep in a cool place during the day

Note—*Follow the doctor's directions implicitly*, and never give the baby any medicines that have not been prescribed by him

If for any cause we have reason to change the formula, we pick out from our milk tables one which is adapted to the needs of a child in the condition of the patient Each formula of our tables has on one side the percentages of fats, proteids and sugar with the degree of alkalinity, and on the other side the amounts of cream, milk and sugar in drams and ounces These latter we change to teaspoonful and tablespoonful, so as to be more easily read by mother or nurse We always have the patient return at least every other day and its symptoms are carefully noted Should any element of the milk formula seem to be disagreeing, this is changed to suit the indications of the case, and should the mother or nurse not understand the methods for the preparation of the milk, we always send one of our clinical assistants to show her By this very simple method we have saved the lives of some hundreds of infants, and we are happy to say that we have very seldom found even the most ignorant mothers who could not follow these simple rules Sometimes when we are in doubt as to the mother's preparation of the milk mixture we have the mother bring a bottle to us for testing In a future edition of these slips we intend having the rules printed in several languages, as our clinical patients are of all nationalities Among private patients it is often possible to go a step farther, and to use the methods for the home modification of milk which are described by Rotch and revised by Cautley The articles required are as follows A wide-mouthed glass jar holding one quart, a syphon of glass tubing, one quarter to one-half an inch in diameter and bent so that the end out of which the milk is to flow is six inches longer than that inserted into the jar One quart of fresh milk from a herd of cows is thoroughly strained and put into the jar, which is kept open for fifteen minutes in order to allow it to cool The jar is then sealed tightly and placed in a vessel containing ice-water and salt in the proportion of a teaspoonful of salt to a quart of water This is set in a cool place for six hours At the end of this time syphon out from the bottom of the jar three-fourths of the milk into a clean vessel The mouth must not be used to start the flow of milk through the syphon, but the latter must be filled with clean boiled water, the lower end closed with the finger and the syphon inverted, the shorter end being placed in the milk When the finger is withdrawn the water, followed by the milk, will run out of the longer division The materials necessary for preparing the milk mixture are as follows First, the milk which has been syphoned from the jar, second, the milk which remains in the jar and which contains 10 per cent of fat, third, milk sugar This may be purchased by the pound and divided by the druggist into packages, each containing 3⅜ drams or 200 grains Fourth, some lime water, fifth, some well boiled and filtered drinking water The milk sugar is first to be dissolved in the water and the other ingredients added in the necessary proportions

Holt's most excellent formula, as given in his textbook, while simple and practical to those who have had considerable experience in the use of modified milk, we have found too complicated for home use We must repeat that we consider the most important point in favor of the use of modified milk is the ease with which the proportions of a certain formula may be changed to suit the peculiarities in the digestion of the individual child we are treating It is not always necessary to adhere to intricate calculations if we have only one basic formula to work on A study of the symptoms produced by an excess or scarcity of any one element will speedily enable us to tell whether the milk is agreeing or not

MILK LABORATORIES

Of late years reliable milk laboratories have been established in different parts of the country In 1891 Mr G E Gordon established in Boston what was known as the Walker Gordon Milk Laboratory Since then branches of this house have been opened in New York, Philadelphia, Baltimore, Montreal and Chicago These laboratories furnish milk, which is modified upon a physician's prescription, in exactly the same manner as an apothecary dispenses drugs Briefly, the principal points of superiority of this method are as follows 1 The primal milk supply is under the supervision of the laboratories and the cows are selected, cared for and fed with but a single purpose in view, namely, the production of a milk suitable for infants' use 2 The freshness of the milk is not impaired by the process of preparation In these laboratories the milk is modified exactly and scientifically Every infant has milk freshly prepared, the formula being made to suit the particular digestion, the fats, sugars and proteids being prescribed with this object in view 3 The milk is modified and sold upon the physician's prescription, so that over-anxious mothers and nurses can make no mistakes as to the quantity and quality of the milk preparation The greatest advantages in this method are the accuracy of the prepared food and its careful sterilization or Pasteurization before its delivery The principal disadvantages are that it is somewhat expensive, and at the present time such milk is hard to obtain within more than one hundred miles of any of our cities In compounding and modifying milk, the directors of the laboratory consider the milk only in the light of its component parts In the modification the following articles are used 1 Cream which contains 16 per cent of fat (centrifugal cream) 2 Separator milk from which the fat has been removed by a centrifugal machine 3 A standard solution of sugar of a strength of 20 per cent It is possible by varying these elements in different proportions to produce almost any degree of modification In writing a prescription for a modified milk, the physician fills out a regular prescription form furnished by the laboratory, using any percentage of fat, sugar or proteids that may be desired, giving the quantity desired for each feeding and the number of feedings in the twenty-four hours The laboratory furnishes a daily supply in the bottles from which the child is to be fed

Among the most recent methods of modification is that of Dufour (*Rev mens des Mal de l'Enfance* September, 1896, quoted from the American Yearbook of Medicine and Surgery)

Dufour gives the following method for humanizing cow's milk Put the quantity suitable for one day at the child's age into a large graduate with a corked spout at the bottom Set aside tightly covered and and at a proper temperature for four hours to allow the cream to rise Draw off one-third the lower milk and add the same amount of water Add 35 grams milk-sugar and 1 gram of salt per liter Shake and pour into sterilized bottles If the child's gain in weight is unsatisfactory, add a teaspoonful or two of cream to the whole amount of milk (The replacement of one third of the bulk of milk by an equal quantity of water reduces the proteids and salts of the milk, but does not reach the proteids of the cream) More definite results are obtained in the wholesale manipulation advised by Dufour, in which the milk is diluted with one third of water and to each liter of the mixture are added 15 to 20 grams of milk-sugar and 1 gram sodium chlorid. The amount of cream here added produced 4 per cent. or more of fat. This preparation is used in all cases, the amount at a feeding alone varying with the age of the child.

Hesse describes in detail in the *Berlin Klin. Woch.*, July 27, 1896 (quoted from Yearbook of Medicine and Surgery, 1897), an improvement on the so called Dresden modification, a description of which, from an English observer, Worcester, was given in the Yearbook for 1897. Using Lehmann's analyses of human milk and cow's milk, Hesse demonstrates that if to 1 liter of 9.5 per cent. cream, 1½ liters of water are added, and to this 105 gm. of milk-sugar and fresh egg albumin (enough to represent 9.5 gm. dried albumin) a mixture is produced yielding 1.2 per cent. casein, 0.5 per cent. albumin, 3.8 per cent. fat, 6 per cent. sugar and 0.4 per cent. ash. To insure sterilization, however, he found that better results could be obtained by drying and pulverizing the paste of albumin and sugar, and the similarity to human milk was more closely approached by adding to this in process of manufacture a certain amount of lacto saccharate of iron. The resulting sterile powder is readily soluble in water, and when added to the diluted cream produced a mixture very closely resembling mother's milk in all its ingredients. In practice it was found that a reduction of the fat percentage to 3, and of the sugar percentage to 4.5 gave a more readily digested mixture. In a series of cases fed from birth to 1 to 5 months the average monthly gain was 13 oz. (not a very encouraging showing under conditions most satisfactory for testing a new process of feeding).

Gaertner's fatty or mother's milk.—Gaertner, in his *fettmilch*, or mother's milk, aims to reduce the excess of casein in cow's milk by the use of the following method. A separator, known as the Pfanhauser centrifuge, making 4800 revolutions a minute, is employed. The machine is filled with equal parts of fresh cow's milk and sterilized water. The speed of the centrifuge is regulated so as to separate the mixture into 1, creamy fatty milk; 2, skimmed milk. The two portions are led off by as many openings. An analysis of each of these portions shows that the creamy milk contains the same quantity of fat as found in human milk. About 2 per cent. of the casein is contained in the skim milk, and the balance, 1.7 per cent., remains in the creamy milk. In order to bring up the proportion of sugar to that found in human milk about three or four gms. of milk-sugar are added to every 100 c.c. of the fat milk. It is claimed that the fat milk has the advantage over diluted milk of having a higher percentage of fat, while the curd is rendered more digestible. This method of infant feeding has been quite extensively tried by Dr. Louis Fischer of New York, who claims to have had excellent results. Our own experience with it has been somewhat limited, and while the results have been fair, we do not think that they have been equal to those obtained from the use of modified milk. We are, however, still using it, and hope to be able to make a further report at some future time.

Condensed milk.—Condensed milk is largely used by the poorer classes as an article of food for infants. Being sealed in air-tight cans or jars and containing a large quantity of sugar it is easily preserved for a considerable time. It is also cheap and prepared with comparatively little trouble—both qualities which recommend it to the poor mother with the care of a large family. All that is necessary for its preparation is to mix with a certain quantity of water and pour into a nursing bottle. The proportion of lactose and cane sugar in condensed milk is in excess of that found in the human or cow's milk, yet the amount of fat and proteid, as well as the alkalin mineral matters, is considerably less. It is true that the large amount of sugar present tends to prevent constipation, but the other elements being disproportionately small makes condensed milk, as an article of food, deficient in general nutritive properties.

Children fed on condensed milk soon become fat, and for some time the digestion really seems to be improved; this is more frequently the case if the child is changed to a diet of this substance from one of farinaceous foods. After a continued diet of condensed milk, however, a child generally becomes flabby, restless or sleepy, suffers from impaired digestion with considerable fermentation, and is apt sooner or later, to drift into a condition of marasmus. Some of the worst cases of simple atrophy that we have seen have been infants who have been fed for a long time on this form of diet. In these children the period of dentition comes later, is irregular and prolonged, and a strong tendency to rickets or a chronic state of malnutrition is manifest. It has also been noticed that if children fed on this diet fall into a subacute diarrhea, it is almost impossible to save their lives.

Proprietary foods.—Many of these foods seem to be quite carefully prepared, and, having the advantage of convenience and cheapness, may be introduced with good results by the end of the first year. It has been taught by some authorities that finely-divided starch or dextrin introduced into milk acts in two different way. First, by its nutrient powers and secondly by its mechanical action. By mechanical action was meant that it was supposed the particles of the starch or dextrin so diffused themselves among the globules of fat and casein of the milk that the former were prevented from separating from the emulsion and the latter could not form a tough curd in the digestive tract of the child. This theory has of late years been disputed, and experiments seem to prove that the action of these substances as attenuants, so-called, is of little consequence. As far as their nutritious properties are concerned, the starchy or dextrined foods are far inferior to milk, for two reasons. First, the proportion of tissue building to the heat-producing elements is much below that of milk. In the second place, the starch, which is a heat-producing principle, must be converted into sugar before it can be absorbed. This change is accomplished by the action of the pancreatic juice and saliva, neither of which are to any extent established before the fourth month of life. The undigested starch, therefore, remains in the gastro intestinal canal and is extremely likely to cause fermentation. In order to make up in some degree for lack of nutritive properties, all farinaceous foods should be prepared with milk, and it really becomes a question whether in infants under 8 or 10 months of age, the nutritious principles are not dependent much more on the milk than on the food itself. In regard to proprietary foods it may be said that their best quality is that they form an easy and convenient way of introducing starch or partially dextrined starch into some modification of milk.

Dextrined foods.—Many preparations are sold in which, by previous heating or by digestion with diastase, wheat or barley flour is so modified as to be more easily digested than simple starch By the action of a temperature of 300 or 400 degrees F the principal substance, starch, forms dextrin a body differing from starch in the fact that it is soluble, and has the characteristics of a gum Quoting from the investigations of Professor Leeds, we find that the flour selected for such treatment should be rich in albuminous substances and made from wheat grown at certain seasons and of a certain grade, and should be made by the roller process

Liebig's foods —Under this head may be classed a number of proprietary foods, the essential construction of which is as follows The flour is prepared by means of diastase, equal parts of wheat flour and barley being used, and a certain amount of wheat bran added The latter substance is used because of the adherent phosphates and nitrogenous matter To these 1 per cent of bicarbonate of potassium is added, with water sufficient to make a thin paste This mixture is allowed to stand for several hours at the ordinary temperature, after which the latter is raised to 150 degrees F , and this is continued until all the starch is converted into maltose and dextrin The mixture is then strained and the residue pressed and exhausted with warm water, after which the extract is evaporated into vacuum jars at a moderate degree of heat The process is completed by drying at a higher temperature, the mixture being stirred thoroughly

Dextrined foods intended to be used without milk —This class of proprietary foods are prepared with the intention of using without the addition of milk, water only being necessary to prepare them for the feeding In the majority of these the starch, which has been partially or completely converted into dextrin, has been evaporated with milk during their manufacture An outline of their preparation is somewhat as follows The flour is first made into dough and baked, after which it is finely ground and mixed with condensed milk and then dried by a slow heat of moderate degree In the resulting mixture the starch has been wholly or partially converted into maltose or dextrose The albuminoids of the flour have undergone about the same changes as take place in other farinaceous foods The milk-sugar has undergone coagulation and the casein has become dried into a fine powder An example of this class of foods is the one sold under the name of Nestlé's Food Somewhat recently a food known as Eskay's Albuminized Food has been introduced The manufacturers of this food have endeavored to combine egg albumin with the other constituents

In regard to the value of these foods, we must say that there is no one of them that can be referred to as being the best upon which to feed a large number of children or a single child during a long period of time That they have a certain amount of usefulness can not be doubted, but our experience has taught us that for a diet for children under 10 months of age they are far inferior to modified milk

333 Pine Street

Glycerin in Chronic Rhinitis —Molteni considers this treatment the most effective for this affection The glycerin is best applied introduced into a pig gut or fish bladder previously inserted in the nose, through which it exerts its effect on the congested vessels *Gazetta degli Osp e delle Clin* , September 8

PROMPT ATTENTION TO EARACHES IN INFANCY AND EARLY CHILDHOOD

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY LOUIS J LAUTENBACH, M D

PHILADELPHIA PA

Children are not only more sensitive to abnormal impressions from without, but are more responsive to curative influences within, whether natural or artificial As a general rule, it may be considered that they are more quickly affected by disease and influenced by treatment, inversely as their age In adults the power of resistance is great, but when the limit of normal poise is once overcome, disease lasts a comparatively long time and convalescence is slow, whereas in children, we know how suddenly an illness reaches the danger point, and after a comparatively short run, is better This rapid recuperative power of the child is not always an unmitigated blessing, as it is often presumed upon, and from too great a reliance on nature, diseased conditions are overlooked, and the convalescent disposition is undermined and sometimes physical structures taxed beyond power of restoration

The result of this sort of unintentional neglect is seen nowhere more clearly than in the consideration of ear pain in infants and children Pains in the ear are often such a common story in a household where there are several children, that little or no remedial attention is paid to them, and this lack of attention is by no means confined to the poor and ill-informed, but is observed frequently among the educated and well-to-do

We are constantly informed as to a child's having had or having earache for days or weeks, sometimes that it is subject to recurring attacks, and yet the parents have done nothing to relieve the pain or inflammation, relying on the apparent results of preceding attacks, that the child has not become markedly worse therefrom They do not even ask ordinary advice, asserting sometimes in a half-questioning manner, that the attack of pain will gradually disappear, or will mention some family tradition to the effect, that children outgrow them Some, indeed, carefully shield the child from cold, or employ laxatives and confine it to a mild diet Again, some will have used hot sweet oil or glycerin, or laudanum with glycerin or sweet oil, to relieve the pain, but only a small proportion will have used any rational measures to allay the pain, and those who, in addition, have used measures to overcome the cause, are very few indeed

Unfortunately, this complacent view is sometimes shared by the family physician Too often he advises no treatment Sometimes the treatment instituted is irrational and not directed to a *prompt* dissolution of the trouble That they do require immediate attention is evident when we observe the after history of these cases of neglected ear pains

It is a *matter* of common knowledge that more than three quarters of all cases of ear affections originate in diseases of the throat and nose, and extend to the ear Those arising from primary inflammation of the ear structures are rare There are a few cases arising from toxic or specific blood conditions, as well as a very limited number due to some primary influence on the nervous structures

Whenever ear pain is present exploration of the nose and throat should invariably be made If the condition of these parts were not known before, the examination may shed considerable light on the special structures examined, as well as on the condition of the general health We will almost always find some throat disease present, either obstructive or inflammatory in character Enlarged and inflamed tonsils are the most common, but pharyngitis, edema, ulcerations, abscesses, elongated uvulæ, as well as nasal catarrh, polyps and pharyngeal adenoids are by no means uncommon To the light shed on the pain from these sources, we must add that obtained from an examination of the general condition of the child's circulatory, nervous and muscular systems

It is not uncommon to find the throat and ear condition secondary to malnutrition from indigestion and even comparatively mild forms of acid dyspepsia In fact, many of the supposedly rheumatic cases of throat, nose and ear diseases in children, attended by soft hypertrophic nasal swellings, with profuse discharges, or by soft spongy tonsillar enlargements with attacks of ear pains occurring usually two or three times a year, are undoubtedly, in their origin, cases of acid fermentation, and by strict attention to diet in their onset, would often be avoidable

This question of diet is a most important one, and by strict attention to measures based on a recognition of its importance, physicians have of late years been able to prevent much suffering and to save thousands of lives, but what is a greater gain to the race, are enabling men and women to become healthier physically and therefore mentally, than any that have gone before Children's habits especially, vary so much that each child must be carefully studied so as to observe to what extent his ways invite colds or nervous exhaustion with the development of reflex and inflammatory conditions

Many times, the attacks are caused by a general or local chilling of the surface of the body from improper or insufficient clothing, or from moistened clothing about the buttocks or chest All skin clothing, that is the first layer from the neck to the toe, from January to December inclusive, should invariably be of wool It absorbs more water from the skin than any texture of equal weight and retains within its fibers more air and greatly lessens the liability to chills and colds This hygienic law applies equally to adults Some mothers, believing in the hardening process, or because of fashion, dress children with insufficient clothing—legs and arms bare, neck and upper chest exposed Among the poor, such exposure occurs often from necessity

Again, harm is done by the prevalent doctrine that the night, clothing should not be as heavy or warm as during the day This view is certainly absurd At night, the coverings should be usually a little more and warmer than in the day, because, during the day, while the body is in motion, it adds, by combustion, more heat than when the body is quiet To keep the same temperature of the body at night, would require the covering of the body with a greater amount of heat non-conductors It is a fact that the night-sleeping body, not usually exhaling as much moisture as the day-working body, requires less heat to protect it from chilling, yet during the day, the extra heat needed, is supplied by the combustion of muscular tissue elements, whereas this is entirely withdrawn while asleep The clothing during sleep, should be a skin covering of wool with as much covering beside, as will equal or exceed that worn during the day

Some neglected earaches may get well without treatment, but as a rule, the child's physical condition, as well as his ear, is to some extent affected by every inflammation of this organ Continuous pains of the boring, pressing, bulging kind exert an influence on the nervous system, which is often somewhat relieved by violent sobbing, restlessness and great irritability, but the nervous system is weakened, loses its energy, and is sapped at times to such an extent as to produce convulsions and even cause death from reflex phenomena

Inflammation of the middle ear cavity, which is almost without exception present whenever there is ear pain, if unrelieved by nature or art, extends and gradually involves the surrounding parts and later on affects the bony structures, giving us mastoid disease with sometimes a mastoid opening, or, again, extending through the tympanic plate, causing meningitis and at times cerebritis Sometimes it involves the sinuses, causing phlebites, resulting often in death In children pus formation is so much more common and rapid than in adults, that we usually have pus formed early and quickly, infiltrating the surrounding tissues Rarely do we have mucus or epithelial excretions It is because of this peculiarity of rapid pus formation that sometimes serious results occur in these cases, before any provision has been made anticipating the involvement of the fatal spot

I recall having been sent for some years ago, to see a case of ear disease, occurring in a child four years of age In his letter to me, the doctor, after describing the onset of the symptoms and the progress of the case, mentioned that though he preferred me to see the case the day the message was received, if I found it inconvenient, the next day would do, mentioning that he scarcely deemed it essential that the case should be seen by a specialist, yet, to satisfy the family, he thought it best to do so This message was received shortly before noon, and as I was preparing to go to see the child about 4 o'clock the same day, a messenger came from the family, announcing that the child had died of the ear trouble It appears that it had been a case of earache occurring in a child rather subject thereto, and in which few if any measures had been taken in the past to arrest or cure the trouble This attack proving more severe than usual, they called upon their family physician some two or three days after the onset He, believing the case needed a little tonic and sedative treatment, prescribed accordingly On being sent for again the same day, he advised the use of warm oil and laudanum The next morning, the child having suffered violently with pain and having been unable to sleep, he was again sent for and used several doses of morphia, and ordered the bowels to be freely opened with mild chlorid of mercury Upon returning to his office, he sent me the note above referred to The child died the same day in a state of collapse, the severe pain persisting, until unconsciousness appeared No postmortem examination was made, but it was undoubtedly a case of cerebral involvement, following upon the erosion of the tympanic plate These cases are numerous, far more so than is usually supposed Undoubtedly many a case which is thought to be a specific variety of meningitis, is but a concealed case of ear disease Many a case of supposed stomach and internal disorder with malnutrition, has died from ear disease I, personally know of three such cases, and have heard rumors and have indefinite knowledge of others

Some of the children supposed to have died as the result of a blow or a fall, would never have died therefrom, had there not been present concealed ear diseases, affecting the mastoid or other parts of the temporal bone In two such cases I have been compelled to testify before the coroner, to exonerate from the charge of murder, those who had inflicted such blows In both cases, the mastoid was riddled and honeycombed with old disease, and in both was the cerebral surface of the temporal bone eroded, making direct connection between the brain cavity and the tympanum In one, there was, in addition, a cerebral abscess directly connected with the diseased ear

The symptoms in another case, interesting in this connection, were those of a young lady, who was sent to me from the upper end of Bucks County, and who died in our city while her case was being studied by several of our physicians She was sent to me on account of her sight, there being entire loss thereof The condition was that of total atrophy of the optic nerve, but there was in addition, the history of epileptiform attacks From the history of the case and the physical examination, there seemed to be sufficient evidence of increased cerebral pressure, supposed to be occasioned by a brain tumor, to justify the consideration of an operation After several weeks of hospital observance, by one of our most distinguished surgeons, he declined to perform it, believing it not to be justified Her general health was very good She was in the best physical and mental condition, when one night she retired early, as usual, and was found in a normal sleeping attitude, dead in the morning The postmortem revealed a large cerebral abscess, directly connected with a perforated internal plate in the temporal region, the temporal bone, being in great part destroyed During her life, her hearing had not been markedly deficient in either ear and her drum heads were intact but thickened After death, it was learned that as a child she had had violent, frequent attacks of ear pain with frequent pus discharges, but for some six years before her death there was no history of ear disease or ear pains of any kind

The symptoms in the two preceeding cases had been—as in the last case—attacks of pain lasting for days, at times mild and again almost beyond endurance, exaggerated at night, sometimes attended with and sometimes without pus discharges, yet the family in not one of these cases, seems to have realized the danger of these symptoms or the importance of prompt treatment

Of late years, accurate examination of the bony ear structures has been far more common at postmortem than formerly, and the frequency with which extensive disease in this location had been found, has much surprised the pathologist and the coroner, the decision in numerous cases being that death has been caused by ear disease where the diagnosis made during life had been far otherwise Very many cases of deaths from unrecognized ear disease, especially in children, have occurred in the past, and even now occur yearly by the score in all of our large cities and throughout the country

The story of ear pains, and therefore of ear inflammation, is one which should be displayed prominently in every nursery and school Ear pains are dangerous; they are not fleeting, evanescent nothings but indicate a condition of inflammation of the middle ear, which is necessarily followed by more or less damage to the parts and impairment of the general health

Among the minor points to be considered are the tendency to recurrence and the consequent nervous and physical exhaustion engendered and the impairment of hearing more or less great and more or less permanent, the necessity of throat and nose examination and treatment, and attention to the general condition and mode of life

Among the more serious aspects to be considered are 1, the possibility of the attacks causing total or considerable loss of hearing, and the consequent lack of proper mental development, 2, the serious inflammatory complications terminating in idiocy or epileptiform convulsions, 3, weakening of the bony structures about the ear, predisposing to their serious involvement from slight accidents and to attacks of cerebral disease

The citing of perhaps a few aphorisms in regard to their avoidance and cure is more important than a recounting of their danger Whenever a severe catarrh of the nose in a child occurs, call in the physician If the attack be a mild one, use protectors, preferably of petroleum ointments, within and about the nose If the throat is diseased, have it treated If the nostrils are obstructed they should be cleared If the tonsils are enlarged, they should be reduced or removed Any general derangements present should be recognized and attended to at once

All cases of ear pain should be referred to a physician, and pending his arrival, sweet oil can be rubbed into the neck and about the ear, or tincture of iodin be painted over the mastoid, or if the pain is severe, even a cantharides plaster can be applied If the pain continues or is excruciating, syringe the ear gently with hot water or apply a hot water bag or hot wet cloths or even hot flaxseed poultices frequently renewed, keeping head high above level of rest of body Occasionally, ice gives the most relief If severe pain persists, use hot bags at feet or a hot footbath followed by dry heat, sometimes a mustard poultice on the stomach, is required in addition Use cathartics, especially calomel, liberally and keep the child on a mild diet Examine the ear carefully, whenever ear pain is present, and determine at once the nature of the trouble and act in accordance with the conclusions reached

If the ear pains and the subsequent progress of the disease present in cases of acute fevers, were but promptly and properly attended to, there would soon be a marked decrease in the number of the deaf in our midst The neglect of these cases often necessarily follows from the engrossment of the doctor's energies in the primary disease, and is in some cases undoubtedly unavoidable, but whenever possible, prompt attention should be bestowed on that organ which, from a utilitarian as well as artistic aspect, is of such great importance

1723 Walnut St

FRACTURE OF THE CLAVICLE IN CHILDREN

A STUDY OF TWO HUNDRED CASES TREATED BY SAYRE'S METHOD

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7 10 1898

BY A E GALLANT, M D
NEW YORK CITY

Of all fractures in children that of the clavicle is most common and presents the greatest difficulty in securing union without deformity

In a surgical service including 18,042 children of 10 years and under, there occurred 343 fractures, of which 172, or 50 per cent, were fractures of the clavicle Of this number, 12 were under twelve months, 112, 1 to 5 years and 48, 6 to 10 years old The youngest was but six weeks old Three cases between 1 and 5 years came to us with faulty union The fracture was located at the outer portion of the middle third, and in most cases there was distinct separation, and knuckling upward of the fragments All were single, simple fractures, with little evidence of laceration of adjacent tissues The line of fracture was more or less oblique, with upward and inward displacement of the acromial fragment Falling on the outstretched hand was given as the cause of the injury

Up to the time when Lewis A Sayre described "A Simple Dressing for Fracture of the Clavicle' (Bellevue and Charity Hospital Reports, 1890), no satisfactory plan which would meet the anatomic conditions had been proposed Since then it has almost superseded all others

Deformity—In reference to the deformity, Sayre says that "all authors agree that the deformity which occurs in the fracture of clavicle is, that the shoulder falls downward, forward and inward, and that the outer end of the sternal or inner fragment always rides over the inner end of the outer or acromial portion of the clavicle" Such a displacement of the fragments has not been met with in the series of cases here reported The point of fracture has been at the outer portion of the middle third, with the shoulder dropping downward, inward and forward, thus dragging on the acromial fragment so as to make an angle or knuckle at the seat of fracture, but the inner fragment has not been found displaced above the outer fragment as described by Sayre and Gray

DISCUSSION

Dr A C **Cotton**, Chicago—In using plaster for the correction of this tendency to deformity, or for any surgical purpose whatever my experience has been that not infrequently you meet a case whose skin won't stand plaster, the continued use of a plaster for even two days bringing out a very troublesome eruption The Doctor did not state, but I suppose a dressing put on for curing this deformity must stay on ten days to two weeks

Dr **Gallant**—The dressing is left two weeks

Dr **Cotton**—Many cases will not stand plaster for two weeks At a certain time of the year you can dress only a few cases in this way Even when the temperature is most comfortable, some cases will not stand plaster Where I can not use plaster I have been in the habit of using a stocking, introducing the hand into the stocking to the very toe of it and carrying the stocking around and attaching a bandage to the upper part of it First having made a collar, by rolling up some muslin, perhaps with some cotton, to encircle the shoulder, I sew the stocking to this collar A "figure eight" bandage brings both shoulders backward, another bandage holding the arm firm I believe that accomplishes all that is claimed by the dressing just presented This dressing is the simplest, I believe, that has ever been devised, but some will not bear it

Dr R B **Gilbert**, Louisville, Ky —In a case of fracture of the clavicle last summer I found the difficulty the Doctor refers to, in a child with a slightly eczematous skin In that case I perforated the mole skin bandage, which is the best bandage to use in such cases In that way you can obviate to a large extent the irritation of the skin, but it does not entirely obviate it It is much better than a pad in the shoulder, which not only causes irritation but presses on the vessels and nerves in the axillary space and often causes swelling and pain so it has to be removed The over shoulder strap is certainly of very great advantage, and it would, it seems to me, obviate deformity The adjustment of these plasters I think should be done under chloroform Otherwise the constant motion prevents proper adjustment of the bandage The anesthesia need be but partial

Dr A **Ernest Gallant**, New York City, in closing—In reference to the irritation, if you use a baby powder and use absorbent cotton in the fold of the arm, which you can tuck in after the arm is put up, the irritation to the outer arm does not amount to much If, as the Doctor says, you wish to use the perforated plaster, you may do so One point in reference to the plan suggested by Dr Cotton is that when you put a child up in a bandage you have got to put it up to stay Last year I showed you how to put up the femur of a child so the child could do anything it pleased The old way was to strap the child down, but in the way I suggested the child can play or do anything it likes I have no doubt the plaster itches, but that we can not avoid I appreciate the difficulty of this plaster, because I have had to use considerable plaster on my own hands and fingers in dressing infective wounds on myself But in any other way the child's arm moves more or less and there is great difficulty in the healing of the fracture I never use chloroform but I use laughing gas for the short operation Perhaps I am not quite so careful as to causing a little pain in children

After I had examined the child and found the fracture of the clavicle, I remembered having measured the child and found the shoulders three inches more in circumference than the head It was a dry labor and I have no doubt I broke the clavicle when I brought the child into the world I did not put any dressing upon it, nor shall I attempt to break it

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NEURO-DEFORMITIES IN CHILDREN FROM AN ORTHOPEDIC STANDPOINT

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo June 7-10 1898

BY JAMES W COKENOWER, A M, M D
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DES MOINES, IOWA

It is generally conceded that nearly all deformities, especially in children, not traumatic or hereditary, are due directly or indirectly to some abnormal condition of the nervous system This branch, like all other branches in medicine and surgery, bows with obedience to its alma mater, because we can not understand the anatomy, pathology and histology of the nervous system, the cerebro spinal or any other specialized nerve cell, unless we understand general medicine and the laws of cell birth, life and growth

My experience, as a general practitioner, prompts me to admit that nothing is more important than the nervous system and its disorders, and yet there is nothing in medicine in which our knowledge is so deficient In the investigation of even so simple an ailment as headache, the field of medicine must be well examined to know whether the real cause of the pain is vicious heredity, nephritis, lack of exercise, anemia, puberty, menopause, menstruation, masturbation, occupation, or one or more of a myriad of other influences and diseases, all of which it is necessary to know to cure a simple headache How much more then, is it necessary for him who would successfully treat the nervous system, especially to that extent to obviate deformities produced by or through the nervous system, to know thoroughly, not only the nervous system, but the entire human system, and everything that would hinder or augment its normal development. Unless we have such knowledge, we will still find ourselves treating apparent poliomyelitis for scorbutis, rachitis for paralysis, torticollis for cervical adenitis, trismus for an erupting wisdom tooth, and the "knee jerk" for morbus coxarius these being deformities produced by abnormal changes in the nervous system. However, there are some "made to order" ovarian deformities, if I may be pardoned for mentioning the fact, which do not come under the scope of this paper, or any other, in many instances, and would not occur if a better knowledge of the nervous system and its influence over each component part of the human system existed. In many instances poliomyelitis or infantile paralysis in its various forms could be obviated if the functions and disorders of the nervous system were better understood. The remark once made by Prof. Jenner that more mistakes are made by "not seeing than by not knowing," is not without a lesson, and helps to confirm the fact that more mistakes are made in diagnosing than in treatment.

Next to the deformities produced by poliomyelitis or infantile paralysis, are those produced by hysteria, which the consensus of opinion of modern writers on the subject has placed among the diseases of the nervous system, which by no means is the most easily handled. I believe, the nervous system being well understood, that a line of general treatment may be used that will lessen the chances for such deformities and militate against existing ones. For this, the constitutional treatment must be looked after first, and the disease will always indicate same after which the special treatment can be prosecuted and the drugs used indicated by the specialization of the disease. All kinds of talipes, or club foot, wrist drop, rotary lateral curvature of the spine, and, in fact, nearly all the muscular deformities known to orthopedic surgery may be produced by some nerve disease, and to undertake to correct the deformity with surgical means without first endeavoring to ascertain the real cause which produced the deformity, and treating the same medicinally, would not be in keeping with the modern medical and surgical science of the day. To more fully illustrate how easily we may be mistaken in the cause and results of deformities produced by diseases of localized nerves, or the nervous system, I will report the following case which has recently come under my observation.

December 7, 1897, Mr. B. brought his little three year old girl to me for examination, stating that she had a crooked back, which the doctor said was caused by the rickets. Upon a careful examination I found that the child had a decidedly neuropathic family history, and a typic spasmodic rotary lateral curvature, which had been diagnosed and treated for rachitic curvature, and as the diagnosis was incorrect, the treatment must have been, because there had been no change for the better, but rather for the worse, after about six months trial. The further history of the case showed that any kind of excitement or fatigue would increase the deformity, and when in a state of repose or sleep, the spasm of the muscles seemed to lessen. This convinced me that it was a case for medicinal treatment. I gave her a good general tonic, strychnin internally, and locally used inunction and massage and put on a crinoline jacket to support the spine and lessen the fatigue caused by the effort of the child to stand erect. Six weeks later I put her on three drop doses of fluid extract of conium, increasing gradually to thirty drops, and hypodermic injections of atropin. These two drugs have always given good satisfaction in such cases. One month after this treatment began a marked improvement was noticed, which continued, and soon the amount of medication was gradually diminished, and time for same increased, until a little over three months from the time treatment first began, the jacket was removed and treatment stopped, as the spasm of the muscles was a thing of the past, and she could walk erect without support.

WHAT INFLUENCE DO STIMULANTS AND NARCOTICS EXERT ON THE DEVELOPMENT OF THE CHILD?

Presented to the Section on Diseases of Children at the Forty-ninth Annual Meeting of the American Medical Association held at Denver, Colo., June 7-10, 1898.

BY E. STUVER, M.Sc., M.D., Ph.D.
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RAWLINS, WYOMING

Since the earliest dawn of history, there has been inherent in the human organism a longing or craving for something to blunt the keen edge of anguish and sorrow, as well as to curb the intellect and inhibit the will, thereby giving full reign to the sentiments and passions during times of conviviality and enjoyment.

Glancing down through the ages into the dim twilight of the past we behold the Chinese using wine from grapes and beer from rice, somewhat like the present saki of Japan, the Hindus sura made from rice, barley, honey and other ingredients by the common people and soma made from the juice of certain plants, and after fermentation offered as a libation to their favorite Gods, Indra, Vishnu and others by the priesthood and rulers. "The ancient Persian writings, the Zend Avesta, dating back to the period of Zoroaster possibly 4000 to 6000 years B.C., contain, like the Rig Veda, many references to a sacred drink, homa and a popular drink, hura."[1]

The Bible contains numerous references to the use of wine, which was frequently carried beyond the point of moderation. And so down through the ages we find all peoples from the lowest savagery to the highest civilization resorting to some form of intoxication. Here on the one hand we behold the highly cultured lady imbibing her strong tea, the orator or statesman trying to conjure up the shade of Demosthenes or Cicero or the poet to arouse his slumbering muse by liberal potations of wine, brandy or whisky, while on the other hand we see the Guatemala indians fuddling themselves with hemlock sap, the Peruvians with coca, the Tartars with fermented mare's milk and the Algerians with hasheesh.[2]

To the scientist and the philosopher, whose function it is to study the phenomena of nature, search out their causes, trace their effects, and co-ordinate all into a harmonious and symmetric whole, and especially to the physician, who should be a strong combination of both scientist and philosopher, this question appeals with peculiar force. What subtle but res [illegible] impelled races, nations and individuals to give themselves up to an indulgence and debauchery that have inevitably led to their ruin or extinction? What caused the Persians under the temperate Cyrus, who by their hardihood easily conquered the effeminate Medes, to fall victims to luxury and degenerate so that Xerxes, the descendant of Cyrus, the monarch of Asia Minor, with his mighty army, was ignominiously defeated by the hardy and temperate Greek? What, except gross intemperance and its twin sister, licentiousness, so degraded the stern, noble Roman character, reduced his physical power and dissipated his ambition, until from being the ruler of the world, he became an easy prey to the barbarian hordes of the north? What, in short throughout all time and among all nations, has been the result of the use of narcotic and stimulating poisons, save effeminacy, degeneration and extinction? With these indisputable facts of history before us, does it not become our duty as physicians, whose function it is not only to cure disease but to act as the conservators of physical, mental and moral integrity, to investigate carefully the exact physiologic effects exerted by these agents on developed and developing living organisms, and to trace the results of their moderate and excessive use both on the present and future generations?

We shall first consider the most widely used and probably least injurious of these substances, viz, *tobacco* The deleterious substances in tobacco smoke are *carbon*, which acts mechanically as an irritant, and discolors the secretions of the bronchial tubes, *carbonic acid gas*, which tends to produce sleepiness, headache and lassitude, *carbonic oxide*, "a very active, poisonous agent producing drowsiness, unsteady movements of the muscles and vomiting,"[3] and crude nicotine, which consists of nicotine proper, and a volatile empyreumatic substance containing ammonia, and a dark, bitter, resinous extract[3] The ammonia bites the tongue, makes the mouth dry and induces thirst, thereby causing the smoker to drink frequently and exciting a free salivary secretion, it also exerts a solvent influence upon the blood[3] Nicotine proper, produces tremor, palpitation of the heart and paralysis, while the volatile empyreumatic substance causes a sense of oppression, and gives an unpleasant odor to the breath

Concerning the physiologic action of tobacco, Wood (Ther and Materia Med, 6th Ed, p 396) writes as follows "Upon persons who are not habituated to its use, tobacco acts as a very powerful depressant, producing horrible nausea and vomiting, with giddiness and a feeling of intense wretchedness and weakness If the amount taken has been large, to these symptoms are added burning pain in the stomach, purging, free urination, extreme giddiness, passing into delirium, a rapid, running and finally imperceptible pulse, cramps in the limbs, absolute loss of muscular strength, a cold, clammy skin and finally, complete collapse, terminating in death" Nicotine is an exceedingly virulent poison, very small quantities, even 1/30 gr have caused poisonous symptoms in the body (J W Sevier, M D), and large doses almost instant death

Tobacco increases the fluidity of the blood, interferes with the development of and causes disintegration of the red blood corpuscles, diminishes the power of the blood to take up oxygen and give off the carbonic acid,[4] and thereby retards the progressive cell changes upon which the development of the body depends, it produces debility and irregular action of the heart[5] and lowers the tone of the whole circulatory system, it weakens digestion and assimilation, and not only prevents the burning up of waste materials but retards their elimination

On the nervous system, tobacco acts as a depressomotor, producing "languor, feebleness, relaxation of the muscles, trembling of the limbs, great anxiety, and a tendency to faint"[6] It also acts as a cerebral irritant, and interferes with the vasomotor centers of the brain to such an extent that the vessels are unable to adjust themselves to the condition required for healthy and untroubled sleep[7] The power of fine co ordination is likewise decidedly lowered by the drug

Tobacco frequently causes disturbances of the special senses Owing to the irritation of the nasal mucous membrane the olfactory sensibility is impaired, and probably owing to the irritation and congestion set up in the nose and throat, together with central nerve disturbance, the hearing is sometimes lowered, but of all the special senses the sight is most seriously affected, and tobacco amaurosis or amblyopia is a not infrequent result of the excessive use of the drug

While it is fortunately true that these effects which are almost entirely functional, rapidly disappear when its use is discontinued by those who have reached manhood, it is very different with adolescents, in whom the habit of smoking causes impairment of growth, premature manhood, and physical prostration[3] The question as to the effects of tobacco on the growing boy or youth has fortunately been removed from the sphere of sentiment and speculation, and is now settled by careful scientific investigations "From measurements of 187 men of the class of 1891, Yale, Dr J W Seaver found that the non-users of tobacco gained in weight during the college course, 10 4 per cent more than the regular users, and 6 6 per cent more than the occasional users of tobacco In height the non-users increased 24 per cent more than the regular users, and 12 per cent more than the occasional users In increase of chest girth the non users had an advantage of 26 7 per cent and 22 per cent, and an increase of lung capacity of 77 5 per cent and 49 5 per cent respectively These facts in regard to the dwarfing effects of tobacco are corroborated by observations on the class of 1891, Amherst, made by Dr Edward Hitchcock He found that in weight non smokers increased during their course 24 per cent more than the smokers, in increase in height they surpassed them 37 per cent, in gain of chest 42 per cent, and in gain of lung capacity 75 per cent It is probable that alcohol and other poisons have similar effects"[8]

The deleterious effect of tobacco on the muscular system, and in diminishing the powers of endurance is strongly emphasized by the fact that "*stop* smoking" is one of the first injunctions given a young man on engaging in training for a race or game of any kind requiring strength and endurance, because every experienced trainer knows that smoking lowers the working power of the human muscle by a large percentage,[9] and that to smoke merely invites defeat If tobacco so seriously injures the young athlete during a short period of training, how much greater must the injury be in the preparation for the arduous duties of our exacting modern civilization How seriously handicapped is the boy who enters the race of life with every cell and tissue of his body poisoned by nicotine

According to the evidence of teachers and educators all over the civilized world, tobacco exerts a very pernicious effect on the student He becomes dull, lazy and unreliable, and retrogrades in his work Indeed, so marked were these effects that "in France the difference between the students in the polytechnic schools who smoked cigarettes and those who did not, in scholarship, as shown by their respective class standings, was so great that the Government prohibited absolutely the use of tobacco in all government schools[10]" "Out of thirty principals and teachers interviewed by the *Chicago Record*, all were agreed that a low standard of scholarship characterized the boy who habitually used cigarettes[11]" The extended investigations of Dr Seaver, of Yale College Physical Department, and Dr McDonald's studies of school children at Washington, D C, conclusively show that cigarette smokers are more feeble physically and mentally than other students[12] This, together with the fact that a very large percentage of the prize-winners, and men who stand highest in their classes do not use tobacco, ought to convince every unprejudiced person that tobacco is at least injurious to the mind of the developing child and youth We make this statement boldly, notwithstanding the recent symposium of St Louis physicians, and the specious arguments and special pleading of lawyer Garrison in his paper, "A Brief for the Cigarette," read before the New York Medico-Legal Society, in which he tries to create the impression that because a large number of cigarettes examined were made of pure tobacco, and did not contain opium or other adulterants, therefore they were harmless What sophistry! Just as though pure tobacco, which contains a substance far more poisonous than strychnin or morphin, is not in itself sufficiently dangerous! Such attempts as these which try to overthrow clearly demonstrated facts and encourage boys and young men in the formation of a habit which can do them absolutely no good, but may be the source of much injury, both to themselves and their friends, besides being a nuisance to every one not saturated with the vile poison with whom they come in contact, are certainly not based on correct ethical principles, and leave a strong impression that they are stimulated by a *quid pro quo* from the tobacco trust

EFFECT ON THE MORAL NATURE

The use of tobacco has a peculiarly demoralizing effect on the moral nature of the young In addition to making boys tired, stupid and lazy, it makes them irritable, perverse and careless of the rights and feelings of others, besides, in many instances leading to lying and even stealing This tendency to moral degradation is exceedingly prevalent among habitués of all kinds of narcotic poisons, and especially so among those addicted to the use of opium I have seen quite a large number of so-called "*fiends*," and have yet to find the first one on whose word I could rely in a business transaction There may be honest ones, but if so I have never met them

For many years I have been firmly convinced in my own mind that much of the pallor, anemia, malnutrition, and the many evidences of retarded growth and development so frequently seen—especially among the poorer classes of our people, are largely due to the tobacco-laden, poisoned atmosphere which these children are obliged to breathe Many a time have I gone into small, poorly ventilated rooms, where at best it was difficult to get sufficient pure air, and found a child suffering from pneumonia or some other severe disease, so enveloped in the foul fumes of stale tobacco smoke that it could scarcely breathe, and every breath it did take was a poisoned one, and have seen the father, who appearently was very solicitous about his child's welfare, puffing away complacently at an old pipe whose horrible odor ought easily to win for it the place of honor in a tannery or a white lead factory, and while doing more harm than all the science and skill of the medical profession, armed by the whole materia medica, could counteract, would probably be finding fault with his physician and blaming him for the child's slow recovery Nor is this the most discouraging part of the matter, because in quite a number of instances when their attention was called to the evil effects of the tobacco smoke the fathers became angry and refused to believe that it had any such effect Such cases as these show the moral obtuseness that may follow and the utter selfishness that may be engendered by the use of tobacco better than any lengthy theoretical disquisition could possibly do Neither, according to competent authority, is the evil limited to the users themselves, but lingers to curse their descendants "No evils are so manifestly visited upon the third and fourth generations as the evils which spring from the use of tobacco"[13] says Sir Benj Brodie

Let us now consider the effects of alcohol on the human organism Sir Benjamin Ward Richardson tells us that "from the stomach alcohol passes directly into the circulation, so in a few minutes it is swept through the entire system If it be present in sufficient amount and strength, its eager desire for water will lead it to absorb moisture from the red-blood corpuscles causing them to shrink, change their form, harden and lose some of their ability to carry oxygen It may even make them adhere in masses and so hinder their passage through the tiny capillaries" (Diseases of Modern Life)

This attraction of alcohol for water, together with the fact that it coagulates albumen and forms a thin white film on the mucous membranes by acting on the albuminous elements of the secretions, and the peculiar ease with which it penetrates protoplasm (this substance can defend itself against most other poisons), suspends or destroys the action of all the primary organic elements[14] In short, it affects every cell and tissue of the body and as Dr Lionel S Beale tells us, "alcohol does not act as a food, it cuts short the life of rapidly growing cells or causes them to grow more slowly,"[15] thereby preventing their proper development and exerting a particularly injurious effect upon the young, retarding their growth—both mental and physical

EFFECTS ON DIGESTIVE AND ASSIMILATIVE ORGANS

There is a wide divergence of opinion as to the effects of alcohol on the digestive organs Formerly it was almost universally believed by physicians that alcohol in moderate amounts aids digestion, but the careful, accurate and painstaking investigations of recent years have demonstrated the fallacy of that opinion, and at the present time the majority of physicians who have made a careful study of this subject are convinced that alcoholic beverages not only do no good, but are positively injurious to digestion "One tablespoonful of whiskey reduces digestive activity more than 75 per cent" say Drs Chittenden and

Mendel[16] "Nothing more effectually hinders digestion than alcohol"[6] says Dr Richardson "If much alcohol is taken into the system the gastric juice is so changed by its direct action that digestion is arrested,"[17] asserts Dr Bunge "The idea of alcohol in any form being an aid to digestion is altogether fallacious and has brought disease and ruin to innumerable multitudes,"[18] is the verdict of Dr C H Shepard Dr T D Crothers says, "I have never seen a case where spirits used in any form, for any length of time, did not produce derangement and disease of digestion,"[7] and Dr J H Kellogg writes as follows "Nothing could be farther from the truth than the popular notion that alcohol, at least in the form of certain wines, is helpful to digestion " Roberts showed years ago that alcohol, even in small doses, diminishes the activity of the stomach in the digestion of proteids Gluzinski showed ten years ago that alcohol causes an arrest in the secretion of pepsin and also its action upon food Wolf showed that the habitual use of alcohol produces disorder of the stomach to such a degree as to render it incapable of responding to the normal excitation of food Hugounencq found that all wines, without exception, prevent the action of pepsin on proteids, the most harmful are those which contain large quantities of alcohol, cream of tartar and coloring matter Wines often contain coloring matters which at once completely arrest digestion, such as methylin blue and fuchsin "[19] Many similar expressions from the most celebrated physicians in the world might be cited, but the above are enough to show that alcohol even when exhibited as a therapeutic agent, should be used with as much care as strychnin opium, or any other poison, and not in the careless, indiscriminate manner in which it has been used in the past

From impaired digestion there naturally results a deficient supply of healthy pabulum for enriching the blood and building up the tissues All the cells and tissues of the body are surrounded by membranes, on the integrity of which the silent work of building up the body depends "If they are rendered too porous and let out the colloidal fluids of the blood—the albumin for example—the body dies, dies as if it were slowly bled to death If, on the contrary, they become condensed or thickened or loaded with foreign material, then they fail to allow the natural fluids to pass through them They fail to dialyse and the result is either the accumulation of the fluid in a closed cavity, a contraction of the substances inclosed within the membrane, or a dryness of the membrane in surfaces that ought to be freely lubricated and kept apart Upon all these membranous structures alcohol exerts a direct perverting power of action It produces in them a thickening, a shrinking and an inactivity that reduces their functional power That they may work up rapidly and equally the membranes require to be at all times properly charged with water If in contact with them any agent is brought that deprives them of water then is their work interfered with, they cease to separate the saline constituents correctly and if the evil that is thus started be allowed to continue, they contract upon the contained matter, in whatever organ it may be situated, and condense it " "By its effect on these membranous envelopes and coverings, alcohol becomes one of the most extreme causes of the modification of animal function and one of the greatest sources of structural degeneration "[3] "The long-continued presence of alcohol in contact with the membranes destroys their dialysing property and produces in the end organic changes "[8]

This effect of alcohol on the membranous structures exerts à most pernicious influence on the health and development of the body While, as previously shown, its action on the digestive organs impairs the quality and reduces the quantity of the pabulum formed for the nourishment of the tissues, this last action not only interferes with the selective activity of the cells and tissues and the free passage of the nutritive material through their enveloping membranes but at the same time retards that retrograde metamorphosis which is always conjoined with healthy activity, and by clogging the membranes, prevents the free elimination of those retrograde products or toxins which are being constantly formed in the body Nor is this all, for by lessening the oxygen-carrying power of the blood it prevents the burning up of these waste materials and toxins, and thereby interferes with functional activity, besides poisoning the system

Viewed in the light of these facts, the so called conservation of the tissues produced by alcohol, instead of being an advantage, as so generally taught, is, I believe, a matter of very serious import to many a patient With the assimilation of the life giving material impeded, and the elimination of death dealing poisons retarded, the only explanation I can find for the widespread belief in the beneficial effects of alcohol is the tendency of the medical profession to conservatism It is so easy to float with the current, it is so pleasant to advocate those doctrines transmitted by generations of ancestors and which have become so strongly ingrained in our natures as to be a part of our mental being, it is so hard to stem adverse currents and fight against the opinions and dicta of the many, it is so unpleasant to strive against inherited cravings and boldly to determine to make truth our guiding star, that the wonder is that any progress has ever been made But while this is true, and all human progress and advancement are conditioned on the overcoming of these difficulties, the Creator of the universe has implanted in the minds of some rare spirits such a longing for the truth, such a desire to penetrate the arcana of nature, that they boldly face all difficulties, overcome all obstacles and never give up the fight until the banner of truth proudly floats over the innermost stronghold of error I am happy to say that in the solution of this great problem our own Association has taken an active and commanding part, and among the gallant standard bearers none occupies a higher position than the Nestor of our profession, the revered and beloved N S Davis

EFFECT ON THE MUSCULAR SYSTEM

For ages the almost universal impression has been that alcohol gives muscular force, that it enables man to do more work, to undergo greater hardships, to withstand greater cold and heat than he could without it Accurate scientific investigations with the dynamometer and other instruments of precision have, however, positively demonstrated the fallacy of this impression As Dr Bunge has very cogently stated, "thousands of experiments upon large bodies of men have been made and have led to the result that in peace or in war, in heat, cold or rain, soldiers are better able to endure the fatigues of the most exhausting marches when they are not allowed any alcohol A similar result is observed in the navies and on the thousands of commercial vessels belonging to England and America, which put to sea without a drop of alcohol Most whalers are manned by total abstainers '[20] Arctic explorers endure the severe cold much better when they abstain from alcohol than when they use it even in moderation The great business interests of the country are beginning to appreciate the fact that alcohol unfits men for doing the best work So convinced are they of this that many railroads and large manufacturing and mercantile establishments will neither employ nor retain in their employment persons addicted to the use of alcoholic beverages

That alcohol lowers muscular force is very conclusively shown by the fact that those who engage in athletic sports must stop drinking if they expect to excel No prize fighter, ball player, oarsman or any kind of athlete can keep up drinking habits without so injuring himself in a few years that he is relegated to the rear as "a back number' This is understood by all trainers and has impressed itself so strongly, that, even in beer-drinking Germany, the favorite national beverage is being discredited by athletes "It is stated that three clubs of Leipsic students have abandoned the 'morning drinking bout,' and that several additional university clubs are about to take the same step The desire to excel in all athletic sports is said to be the impelling cause of this action on their part" This practical acknowledgement that beer drinking is inimical to the best physical condition and to the highest degree of athletic success would be significant in any country, but is especially so in Germany, the great beer-drinking country of the world Careful experiments made on a number of persons by Dr Kellogg several years ago showed that muscular strength is diminished more than 30 per cent by the use of alcohol, and the same author declares that nothing could be more absurd than the administration of mixtures containing alcohol when tonic effects are desired [19]

The careful and elaborate experiments made on dogs by Prof C F Hodge (*Pop Science Monthly*, April, 1897) showed not only a marked diminution in muscular activity, but a greatly lessened power of endurance on the part of the dogs that received alcohol

EFFECT ON THE SPECIAL SENSES

Careful experimental investigations as well as everyday practical experience have demonstrated the fact that alcohol reduces the power and functional activity of the special senses, besides so perverting the action of the nerve centers and interfering with transmission to and from the periphery, that correct impressions of objective phenemena can not be obtained The acuity of vision is lowered, the power of hearing reduced, the sense of smell blunted and the taste so obtunded that fiery and even caustic liquids can be swallowed without wincing When carried to the stage of complete narcotism the functions of the special senses are for the time being lost and those "gateways of the soul" which are given us for protection are closed, and the man—deprived of sensation, motion and the power to see, hear, taste, smell or feel—lies before us, a mere vegetating mass, with barely enough respiration and circulation to sustain life, and if the narcotism is carried too far these stop too and he dies

EFFECT ON THE NERVOUS SYSTEM

But while alcohol retards digestion, impedes assimilation and excretion, reduces the oxygen-carrying power of the blood, and inhibits the nutrition of the cells and tissues of the whole body, still it is on the nervous system that its most far reaching and malign influences are exerted According to Dr George Harley,[22] it acts on nervous tissue in three distinctively different ways "Firstly, through its chemic action on the blood, second, by disordering the liver's functions and causing the bile to accumulate in the circulation, thereby poisoning the brain and nerves, and thirdly, by its accelerating the heart's action and thus sending an increased supply of blood to the brain'

Dr Norman Kerr[23] writes as follows "Alcohol paralyzes the vasomotor nerves, and thereby relaxes control over the vesels so that these dilate and allow more arterial blood to pass to the brain With this superabundant supply of blood there is great activity of function This is the stage of exhilaration, excitement, brilliancy, sometimes frenzy and delirium Owing to the loss of the contractile power of the vessels the increased blood-supply can not be returned to the veins from the brain with sufficient rapidity, and thus there is a block, causing impediment of the circulation, which ought to be free and unimpeded to allow of duly aerated, fresh arterial supplies, this is the stage of depression—of depression and collapse, when the brilliancy dies away, memory fades, speech is thickened, voluntary movement ceases, sensation is dulled and consciousness fails This process, frequently repeated, sets up permanent tissue changes The covering envelope is thickened and otherwise so injured that proper nutriment can not be conveyed to the brain, and thus that organ is badly nourished The shape of the brain cells is altered, and the physical degradation of the cerebral substances sadly impairs the intellectual and moral faculties"

Dr B W Richardson says "It has four distinct effects on the nervous system 1, simple exhilaration or excitement, caused by paralysis of nerves controlling the supply of blood, 2, muscular weakness or lack of control of one's movements, 3, mental debility, involving the weakening of the will, judgment and reason, 4, unconsciousness, with entire prostration of the body, stupor and delirium tremens," and Dr N S Davis states that "alcohol diminishes nerve force, sensibility and the action of the nerve centers in direct proportion to the amount entering into the blood'

"The excitement of all natural stimulants is not necessarily followed by a corresponding depression, but it is the inevitable result of alcohol and all other narcotic stimulants, that they are followed by depression more than equal to the excitement produced, so that a person using narcotic stimulants is more depressed than ever, and, therefore, is more inclined to repeat and increase the dose" ' And I desire to add that this tendency of alcoholic beverages and other narcotics to create a craving which only *their use* in increasingly larger doses can satisfy, is one of the great dangers connected with their use Time will not permit me even to allude to the many pathologic changes or diseases that result from the excessive or long-continued use of alcohol in any of its many forms Enough has [illegible] ver, to show that it seriously interfe [illegible] ve and lative functions, even in the adult, and how much more serious must its effects be on the growing child or youth, whose normal development is conditioned on the possession of pure, rich, properly oxygenated blood, active assimilation and unimpeded elimination? If it reduces muscular power and activity in the adult, how much more serious must its effects be on the rapidly developing muscular system of the youth! If it reduces the power of the special senses and so perverts sensation and interferes with the ability of the mind correctly to interpret the actual condition of the physical and mental powers in the adult, how great must be the injury it inflicts on the immature muscular system, and how terrible its effects on the nervous system of the growing boy!

EFFECTS ON THE MIND

In view of the foregoing effects on the physical organization, the question naturally arises, How does alcohol affect the mind? What influence does it exert on the immortal part of man? If human experience and observation have ever incontrovertibly established any truth, I believe they have proved that alcohol dulls and perverts the perceptive powers, deranges the emotions, beclouds the intellect and inhibits and paralyzes the will. "The will is always lessened in force and activity. The ability to determine between two or more alternatives, to resolve to act when action is necessary, no longer exists in full power, and the individual becomes vacillating, uncertain, the prey to various passions and to the influence of vicious counsels."[2] "The more purely intellectual faculties of the mind rarely escape being involved in the general disturbance caused by alcohol. The power of application, of appreciating the bearing of facts, of drawing distinctions, of exercising judgment aright and even of comprehension, are all, more or less, impaired. The sense of right or justice, which the individual may have had, is so weakened or destroyed that he will lie or steal or commit murder or other outrages, even where there is no provocation." "The memory is among the first faculties to suffer,"[26] writes Dr. Wm. A. Hammond, and Dr. August Forel of Zürich, says: "The poisoning of the brain by alcohol is all pervasive. We need not descend to the drunkard. In looking at the moderate drinker we see that his sensibilities are less fine, he cares less for the strict truth, he is more negligent of the proprieties and less active mentally."[27] Nor is this all, for "under alcoholic influence the brain begins to think awry. It can not think straight,"[28] and its influence on the psychical processes is curious, for while it renders them much slower, the individual under its influence believes them to be much quicker than usual."[29] Indeed, experiments made in Heidelberg University show that the consumption of alcohol, whether in large or small doses, produces a tendency to paralysis of the mental faculties.[30] And still, many would excuse free indulgence in alcohol on the ground that it is necessary to arouse the mind, to cause thought to flow freely, to stir latent genius into brilliant activity, or awaken the slumbering muse and snatch undying fame from Parnassean heights. Stuff and nonsense! The genius that will not illuminate without alcohol, had better be left to "innocuous desuetude," to take its place with the "mute inglorious Miltons" of the past, and the muse whose celestial fire can only be stirred into an active flame by means of whisky, brandy or even champagne, is at best but a sorry jade, and had better be allowed to slumber peacefully on. If the experience and investigations of the most eminent physiologists and thinkers are of any value, more long-continued, arduous and severe mental work can be accomplished without alcohol than when it is taken, even in small amounts. On this subject Prof. C. F. Hodge writes as follows: "Helmholtz has said in describing his methods of work that slight indulgence in alcoholic drinks dispelled instantly his best ideas." Prof. Gaule once told the writer as an experiment during the strain of his "Staats examen" that he suddenly stopped his wine and beer and was surprised to find how much better he could work. An eminent professor of Leipsic once said that the German students could do twice the amount of work ("Konnten zwei mal so viel leisten") if they would let their beer alone. Dr. August Smith has found that "moderate, non-intoxicant doses of alcohol (forty to eighty c.c. daily) lowered psychic ability to memorize as much as 70 per cent."[31]

EFFECT ON THE MORAL NATURE

As pointed out in the foregoing quotations, alcohol blunts the finer sensibilities and dulls the moral perceptions so that the regard for truth, justice and the rights of others is greatly lessened. Indeed, it is a matter of common observation that old habitués are entirely unreliable, and in many cases their most sacred pledges are utterly worthless. So thoroughly are they in the power of an insatiable appetite, and so absolutely are they enslaved by it, that they would violate their most solemn promises, yea, even, if such a thing were possible, would barter their immortal souls for a glass of whiskey. This, together with the fact that a large percentage of the crimes committed are directly or indirectly due to indulgence in alcoholic liquors, should lead to the most stringent measures to protect the children and youth of our land against their blighting influences. These protecting influences, stimulated by a thorough physiologic knowledge and an aroused conscience, should originate in the home, be continued and strengthened in the schools, and strongly reinforced by the legislatures and courts of our land, and finally should receive the unqualified and earnest support of every physician. When we consider the strong inherent craving for alcoholic beverages in the human race and the powerful inherited tendency (latent though it be) in such a large percentage of persons, I do not believe any physician is justified in using alcohol in the treatment of any case of disease, unless, after a careful investigation, he is convinced that no other remedy will answer just as well. If such a course were conscientiously pursued, I predict that alcohol would soon be reduced to a very limited sphere, because I believe that nearly every disease in which it is now so extensively used could be treated better without it, and the medical profession be spared the odium of producing so many drunkards. The same is true of opium and other narcotic poisons which are now so extensively, indiscriminately and unfortunately—I think needlessly—used. If we would devote more time to securing a clear conception of the great laws regulating physiologic activity, to ascertaining the causes of diseases and trying to remove them, or assist nature in overcoming their effects, instead of merely administering a narcotic dose to cover up the painful symptoms, we would do a great deal more permanent good and not lay ourselves open to the imputation of having done much harm

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DISCUSSION

Dr **Slagle** of Minneapolis—In regard to tobacco, the bad effects of it, of course, can hardly be exaggerated The subject brought to my mind an experience I had when I started out in the practice of medicine, about 1861 Among my first cases I had a baby that was very ill On my first visit it had turned suddenly worse The symptoms were all bad sweating almost pulseless, and I at once made an unfavorable positive prognosis that the child was dying I did not observe that a lot of old ladies had gathered in and had been smoking The house was full of tobacco fumes I gave the case up and was going to visit a relative some miles away I returned in the morning and my patient was better, and recovered Then I searched for the cause and found it was the fumes of tobacco with which the room was filled which depressed the child and came near killing it, and caused me to make the blunder in prognosis

In regard to the use of alcoholic stimulants, I do not like to hear Dr B W Richardson quoted, eminent as he was, I think that he went to extremes The more I practice medicine the more I give alcoholic stimulants in certain diseases, and I am sure with good effect Of course, no one can exaggerate the baneful effect of the excessive use of alcoholic stimulants But in the practice of medicine, especially with children, I am sure it is a good therapeutic agent I believe it is, when properly used in properly selected cases, a valuable agent As to its injuring digestion, that is a mooted question, there are good authorities on both sides I am sure it does not always injure digestion I hoped the essayist would speak of opium The more I practice medicine, and my department is diseases of children almost entirely, the more cautious I am of using opiates in any form in diseases of young children Indeed, I use opium very little I may state that in the earlier days of my professional experience I saw great harm from it I am even willing to admit that I believe I killed some with it. It is a very dangerous agent to use in diseases of children, and I find we can get along without it Those of the rising generation are less excusable, perhaps, for its use than we of forty years ago We have now many remedies that were unknown then, that take its place

Dr **Louis J Lautenbach**, Philadelphia—Up to the present time the youngest age of any one who has been found the subject of tobacco blindness has been 19 years of age This afternoon I expect to report a case I saw 13 years of age, and since then I have found a number of cases of about that age and from there on, and I find, from the influence of tobacco on the system, that these cases are very common indeed I for one am very much in favor of the enactment of certain laws in regard to the use of tobacco If we face honestly the two questions of alcoholism and tobacco, we will find that tobacco exerts the greater harm It is not easy to think so, for we have been taught differently We can use alcohol in reason and it will do good, but upon the young I have never seen any case where the use of tobacco has done any good, but I have seen numberless cases in which it has done harm You go through the streets of our larger cities and notice the young boys smoking and you will see certain characteristics caused by the use of tobacco I think before long we will have laws prohibiting the use of tobacco by minors In the case I mentioned, the vision was about 1/5, the patient was a boy about 13 years of age, rather tall, and he had been following the habit about a year His heart's action was very irregular When the tobacco was stopped, the vision became 6/9, showing the influence of the tobacco on the vision I do believe tobacco has not been talked about more because it is one of our pet vices I find it far more difficult to get patients to stop the use of tobacco than to stop the use of alcohol

Dr **John Ridlon**, Chicago—I simply wish to say a word in protest against the universal application of the conclusions in the paper read Of course, the conclusions of the essayist are correct in a measure, but they are incorrect in their general application Now, as to tobacco, I don't know what I would have been had I not commenced smoking at 13 As far as the effect of alcohol on digestion is concerned, it is true alcohol delays digestion, but it is not necessary to conclude therefrom that it is harmful to the individual Delayed digestion often makes more perfect digestion The patient may suffer difficulty from the digestion being completed before the digestive process has ceased There can be no question that alcohol often is an advantage and help in digestion, not because it hastens digestion but because it delays digestion

Dr **R B Gilbert**, Louisville—I heartily agree with every word that has been said here about tobacco I come from a State that boasts of its tobacco and whisky, and Kentucy probably would not thank me for saying a word against tobacco, but I have written against it, and I have not missed an opportunity to speak against it It gave me dyspepsia and everything else until I quit it It reduced my weight to 120 pounds The point the gentleman makes in his paper is one we should pay considerable attention to We should educate the public mind on the evil effect of the tobacco habit on the infants and children of our nation I believe today, sir, that the degenerated condition of the country that is at war with us, is due as much, if not more, to their use of tobacco than to any other one vice they have We should go back to the ancestry to find the cause of the ill effect on the children I have found one or two children of such a family have a nervous temperament, even sometimes to such an extent that they could not follow the ordinary course of the common schools, many of them becoming epileptic That is not all, it has a degenerating effect upon the moral character The average tobacco user defends himself by saying it is a luxury and a pleasure I know old farmers in my country, apparently hearty and hale, although they use whisky, but they are the exceptions I want to say a word about the use of tobacco among doctors, especially those who practice obstetrics [illegible] w a case in w [illegible] ieve the doctor killed [illegible] ving his [illegible] co to resuscitate i [illegible] th was [illegible] co, and he bl [illegible] hild's [illegible] ld's [illegible] to to account for the death No obstetrician knows what moment he may have to use artificial respiration

Dr E STUVER, Rawlins, Wyo, in closing—I fully understand the fact that tobacco may have its proper usage, I believe, however, that the proper use of tobacco is in the exceptional case, and not in the general rule for mankind Tobacco should not be used by the young Of course, my discussion took up the general physiologic effects of tobacco But the special application is that in the growing boy, tobacco retards growth not only of the muscular system and the nervous system, it not only interferes with digestion and impedes the elimination of toxic products from the system but it interferes with the whole development of the child in every particular, morally and intellectually as well as physically If I had the time to complete my discussion of the alcoholic question, some of the reasons would have been seen for my objections to alcohol, especially for the young We see many of the effects of alcohol in the young not due to its direct use, but due to the use of alcohol by the ancestors While I am glad to know one of the gentlemen claims to get good results from alcohol, yet the more I practice the more I find I can get good results without alcohol I can get better results from strychnia than from alcohol, in a case of pneumonia or any other condition of lowered vitality

GASTRO-INTESTINAL CHOLERIFORM CATARRH

Presented to the Section on Diseases of Children, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver, Colo, June 7 10 1898

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Of the various titles, as cholera infantum, infectious diarrhea, choleriform diarrhea, summer diarrhea, summer complaint, acute mycotic diarrhea, by which this disease is known, none are as expressive as gastro-intestinal choleriform catarrh, for none designate as much at the outset, of the extent and character of its manifestations or variety of its action, summer complaint and summer diarrhea especially should not be used, they being indefinite and meaningless The tendency of giving a number of names to a single disease should be overcome, be simple and comprehensive so no misunderstanding will be possible, avoid a variety of synonyms, they are confusing to physicians in general, who have not this knowledge at their command—knowledge which is tedious and unnecessary, and often leading to serious mistakes

Gastro-intestinal choleriform catarrh, while not of common occurrence compared to other diarrheal disorders, is relatively frequent in children under 2 years of age, is of short duration and frightful severity Occurring as it does in children of such a tender age, weak and easily overcome, it is incumbent on us to know it thoroughly, recognize it early, that we may treat it vigorously and properly It is now generally accepted that the exciting cause of this disorder is bacteria, the exact nature of which is undetermined, whether introduced into the system with impure food or residing in intestines, and made capable of exerting their destructive processes by being transformed into pathogenic germs or forming ptomains is a question to solve, on which our energies should be directed Accepting that bacteria is the cause, we are certain that their action is limited to certain periods of the year, not exerting their influence during very cold months—of twenty six cases none occurred during December, January nor February—on the other hand, the prevalence of the disease during June, July and August would tend to the belief that during a high temperature, the bacteria are especially numerous or active, or changes in the body are such as to especially invite their inroads Dr L Emmett Holt, in his splendid work, "Diarrheal Diseases," draws the inference that "it is not the bacteria directly which produce the lesions, but their ptomains, and, further, that the action of the latter is principally on the blood-vessels" Assuming Holt's inference to be correct, as from our present knowledge it appears to be, what are the causes predisposing to the formation of the ptomains?

Knowing that bacteria exist in the intestinal canal in health, without detriment to normal conditions, anything which changes the healthy tissue or otherwise forms a medium for their development or action would be a predisposing cause

That there is a distinct connection between occurrence of this disease and condition of temperature can not be questioned, occurring only during warm periods and absent during very cold establishes beyond doubt such a relation, whether it is the life of the germ, the normal resistance of the child, or that food undergoes putrefaction to a much greater degree, or that increase of unhealthy surroundings favor the micro-organism, is yet to be decided My observation of twenty-six cases were as follows

April 1, May 1, June 5, July 10, August 6, September 2, October 1

According to the age the cases occurred as follows First six months, 2, second six months, 7, third six months, 9 fourth six months, 5, between 2 and 3 years, 3

There are several reasons for frequency in infancy, one which is seldom emphasized being the natural tendency—from weakness of a child of such a tender age—to succumb to the inroads of any irritant or its inability to resist an irritant But standing above all other causes excepting bacteria, is that old enemy of the infant, which seems to wax stronger as time goes on—improper feeding, it is worthy of note in this connection that the child so fortunate as to be nourished at the breast escapes this dread disorder, with rare exceptions Reasoning from this fact, what is more probable than that food is the vehicle by which bacteria are introduced, a nidus for their development, or causes changes in the mucous membrane favorable to their action? For instance, in over-feeding, the organs of digestion are overtaxed by the increased work and their power gradually diminished, there remains in the intestines a quantity of undigested food which undergoes decomposition, irritating and causing a change in the normal state of the intestines, and a culture in which the bacteria may produce their evils There is scarcely an infant which is bottle fed that escapes diarrhea during the first two years of its existence Improper food of any kind, over-feeding, unhealthy source of obtaining milk, are self-evident reasons for this, meats, vegetable, fruits, are common causes and should be prohibited, because the infant is unable to digest such food We should carefully guard against all irritating ingesta, animal or vegetable, and more so, if not strictly fresh, the ptomains may be introduced in the food and not formed in the intestines, though the latter appears to be in general the modus operandi In conjunction with other results of high temperature the difficulty of obtaining pure milk rapid decomposition of food, and the desire for more liquids on the part of the child resulting from excessive heat, should be borne in mind

One other fact in this connection of feeding, one which was first called attention to by Dr R B Gilbert the sexual act causes colostrum to be present in milk this is irritating, difficult to digest, and has a laxative effect, in two cases I could trace cause to no source except this Pregnancy and menstruation in mother nursing child may cause diarrhea, indiscretion in eating or medicines to mother, the latter may also be the cause in the child, a laxative to overcome constipation continued too long is more commonly a cause than generally credited

Unhealthy surroundings predispose by increasing the liability of contamination of food and drink, or rendering child less capable of resisting by the impoverished air impairing the blood to a greater or less degree, and to the fact of the freer contamination increasing number of bacteria or forming ptomains Dentition is an exploded cause, excluded by the occurrence of this disease mostly in warm weather and seldom in cold, while if it was causative the disorder would be met with at all times without regard to season or temperature Sudden exposure to cold would only act by lowering the standard of resistance, in itself it would be no detriment as far as this trouble is concerned

Any disease present may predispose to this diarrheal affection in like manner to surroundings, by placing the system in a more receptive condition to accept the contagion This form of diarrhea often follows other and slighter intestinal disorders, the reason for which is apparent, the local irritating effect of the milder form being prone to render the mucous membrane of intestines more or less unhealthy and particularly affected by the action of the bacteria

It is unfortunate that there is so little definite knowledge of the anatomic changes occurring, for a disease is best studied in relation with its pathology, there are but few cases that are reported and these only partly satisfactory This lack of facts is due chiefly to the rapid course of the disease with but slight changes compared to intensity of symptoms, the disability to obtain consent for postmortems before cadaveric changes occur, or to different modes of beginning of the disease There would necessarily be a different state of the gastro-intestinal tract in a case following a previous diarrhea to that in which this disease is independent of any other form of trouble According to Rilliet and Barthez the following is a summary of the anatomico pathologic changes divided in four states, *a* ' either the stomach is softened without any lesion of digestive tube, *b*, or the stomach is softened at the same time that the mucous membrane of the intestines, and especially the follicular apparatus is diseased, *c*, or, the stomach is healthy, while the follicular apparatus or the mucous membrane is diseased, *d* or, finally the gastro intestinal tube is not the seat of any lesion appreciable to our senses in the present state of our knowledge, or it presents lesions so insignificant that they are not sufficient to explain the gravity of the symptoms "So far, the disease resembles all the catarrhs but what is special is the abundance of serous secretion and the disturbance of the great sympathetic nerve ' The salivary glands are especially affected, becoming enlarged and micro organisms are found, which however indicate but little, as bacteria abound in the intestines in health If the disease lasts longer than usual there are more decided changes, proliferation of cells in the glands which open on the surface and also from the ductless glands, the degeneration of the epithelium resulting in erosions which expose the basement membrane, or if the disease is protracted, loss of substance is still greater, forming follicular ulcers, if it has lasted a long time a hyperplasia of the connective tissue with thickening of the mucous membrane or formation of mucous polypi May have cysts formed by an agglutination at the orifice of a follicle Of the changes in other organs nothing has been noted save in blood, there is decided lessening in the quantity of the blood and in its solid ingredients, resulting in the terrible anemia which occurs so speedily, also may have evidence of hypostatic congestion

However, the changes in a typic case of gastro-intestinal choleriform catarrh, to our definite knowledge, are those of an acute catarrhal inflammation Generally a child has a diarrhea and little attention is given it, perhaps four or five actions in the day, when, without warning, it is seized with vomiting or the stools are greatly increased in number, and the character changed to that peculiar sort which typifies this disease Or, less frequently, the characteristic diarrhea begins suddenly—at first the stools having a little fecal matter in them, but soon they change to the rice-water discharges similar to those occurring in Asiatic cholera, these are colorless, generally odorless, serous in character and of large amount, occurring twenty to thirty times or even more in a day If the stomach is chiefly involved vomiting precedes the diarrhea, but generally the intestinal symptoms occur first The vomit consists first of the contents of the stomach, or any food taken, then is slimy, containing mucus and serum, and finally, from retching, biliary matters are regurgitated and vomited

In all my cases these two symptoms occurred, the intestinal one generally coming first, at times the two together, exceptionally the vomiting first Intense thirst from drain on blood-vessels, colicky pains, tenderness and retraction of abdomen, often rumbling in bowels Child restless, depressed, irritable, refuses everything save cold drinks, which are almost immediately vomited, pains in muscles, especially of neck Voice weak and hoarse, tongue at first coated, following diarrhea is very dry rapid and great emaciation, sunken eyes with lids partly open, face pale, skin loose, with prominence of the bony points of the body, extremities cold and moist Pulse is extremely rapid, from 140 to 175 per minute, weak and irregular, may be impossible to count finally may become so small as to be imperceptible Respiration is increased in frequency labored and irregular Temperature varies from 103 to 107 degrees in typic cases

If the case terminates fatally, child has convulsions urine scanty or suppressed marked stupor, pays no attention to surroundings, face cyanotic, cold, clammy skin, fontanelles sunken, pulse imperceptible, respiration accelerated and shallow hyperpyrexia generally, but may be subnormal temperature, state of coma In favorable cases there is a gradual abatement of the symptoms, may become an ordinary diarrhea or merge into a decidedly inflammatory one, first vomiting ceases, then change of stools, becoming more fecal in character There is seldom recovery after the more severe, especially cerebral symptoms occur

The prognosis is decidedly unfavorable depending on age, surroundings previous health, whether bottle-fed or by breast; and especially on severity of attack Of the twenty-six cases which I reported seventeen died, or about 65 per cent The duration is generally from twenty-four to forty-eight hours As to diagnosis there can be no doubt There is no disease which presents this marked group of symptoms in the brief time that this does, other diarrheal affections which simulate this run a much longer course, Asiatic cholera is differentiated by its longer course and presence of comma bacillus

Treatment —If possible, a child not breast-fed should be taken to the country during the summer months, or daily to the parks which are to be found in every city of any pretensions The room should be large, well aired, of an even temperature, in which the child is kept, no foul-smelling articles of any description should be left near the child, all vomit and discharges destroyed, preferably by burning The diet should be carefully chosen and carefully given, a suitable amount at regular intervals, above all, avoid overfeeding and restrict to a milk diet, previously boiled if possible, in those in which milk disagrees, barley is an excellent substitute, boiled, strained, and with a pinch of salt added, but as little food as possible should be given during the acme of the disease Any derangement of stomach or bowels, however slight, should be promptly and vigorously treated, bearing in mind that in the generality of cases gastro-intestinal choleriform catarrh follows a milder form of diarrhea In children nursed at breast the mother must be forbidden to nurse the child within three or four hours after coition, as colostrium is likely to excite a diarrhea

From violence of symptoms, rapidity of course and unfavorable prognosis, the indication is decided treatment from the onset, the child should be seen every hour, or better, if possible, for the physician to remain at its bedside during the height of the disease, or for as long a time as his other duties will permit, often immediate attention turns the tide to a favorable course and he may be able to save the little sufferer, it is my custom, whenever applicable, to remain with the patient the entire night and as much of the day as time will allow For the vomiting paregoric, creosote, iced champagne or brandy by mouth, or if vomited, by rectum, if this is unsuccessful a hypodermic of morphin may be tried—but is contraindicated after the symptoms of collapse begin In addition to vomiting opium is good for the diarrhea, restlessness, pain and tenesmus, but should be stopped if drowsiness comes on For the diarrhea, bismuth has given by far the best results, it is an antiseptic and an astringent—two qualities which serve our need especially, opium by lessening peristalsis, lime-water or some other alkaline to neutralize the acidity, pepsin to aid digestion and prevent decomposition of food and formation of gases and acids

The only method I ever adopt of reducing temperature is by cold baths or applications—place child in a bath a few degrees below that of the temperature of the body, and then by addition of ice the water is cooled a few degrees, being satisfied with moderate improvement in this regard This is the best and safest plan, fever is reduced thus only a short time, and the baths should be repeated as often as indicated by a hyperpyrexia

For the pain and tenesmus the application of counter-irritation is valuable, as it lessens amount of medicine necessary to be given internally a piece of flannel folded four times and large enough to cover abdomen is dipped in hot sweet oil or lard, to which about a half a teaspoonful of turpentine has been added, and applied, covered with oiled silk and a cloth, is an excellent method A remedy which has proved of great value to me in these cases is creosote, it is carminative, antiseptic, astringent, is sedative to mucous membrane of the stomach (acting on terminal nerve filaments probably), indications which it is necessary to meet, I give it in one drop doses every two hours combined with bismuth, pepsin and paregoric For nervous irritation or cerebral congestion bromid of potassium is good, but must be used cautiously lest it excite more violent vomiting, it being decidedly irritant in some cases For threatened collapse nothing equals whisky or brandy, ten to twenty drops per hour, in addition to this hot baths with addition of mustard, injections of camphor and atropia, the latter especially if the collapse is threatened from the heart

It is best to give whisky or brandy throughout the disease frequently, if not tolerated by stomach give by hypodermic method, I have used alkaline solutions and, I believe, with benefit, hypodermatically, a 1 per cent solution, or per rectum, 3 or 4 per cent solution We can not be too careful during convalescence A slow, gradual increase in the amount of food, given either predigested, or better, with a digestant and an antiseptic The following formula has been of the greatest benefit during the acute stage of this trouble, before stupor comes on or collapse is threatened

℞	Creasoti	m xii	|070
	Tr opii camph	℥ ss	15|50
	Bismuthi subnit	ʒ iii	11|66
	Pepsini scalæ	ʒ i	3|88
	Syr Aurantii cort	℥ ss	15|50
	Aquæ menth pip , qs , ad	℥ iii	93|30

Mix Sig *Teaspoonful every two hours to a child one year of age*, vary with age and severity of symptoms

In conclusion, I wish to emphasize several points Move child to country during warm months whenever possible, especially if under three years of age Do not think it necessary that food be given during height of disease, it is better to give no nourishment for twenty-four hours than to risk aggravating symptoms Be in almost constant attendance on patient Give stimulants from the beginning, but no opium if least sign of stupor present, especially not hypodermatically The strictest hygiene must be observed

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IS THE USE OF THE TERM "TYPHOID PNEUMONIA" JUSTIFIABLE? A CASE IN POINT

Presented to the Section on Diseases of Children, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY H D TULEY, M D

LOUISVILLE, KY

The title of this paper was suggested by the following case, the postmortem findings of which made the original diagnosis recorded incorrect

The child was a robust girl, 13 years of age, seen first on Jan 30, 1898, she having had a chill on the two previous days, with a maximum temperature on the first day of 101½ degrees and on the second day 103½ From this time to the eleventh day, all of the symptoms were those of typhoid fever, and the diagnosis was so recorded There had been a general malaise for several days before the first chill, the headache was quite severe, gradually improving as the second week approached, the tongue was heavily coated a brownish yellow, with red edges and tip, but was moist, slight abdominal tenderness at first low down and a little to the left of the median line, right sided tenderness with gurgling soon developing, dry skin, epistaxis, cough quite severe and annoying at times, moderate temperature, from 101 to 102, pulse 120 to 125, rose colored spots appeared about ninth day, typic diarrhea during second week

On the tenth day the temperature rose one degree, the pulse to 140 and the respiration to 50, but the chest still negative Frequent examinations carefully made had up to this time failed to reveal anything abnormal On the twelfth day signs of consolidation were found in the right base near the angle of the scapula, this gradually extending until the most of both lungs were involved Despite free stimulation, administration of strychnia and nitroglycerin, and free administration of oxygen, her condition gradually became worse and she died in the state of severe cyanosis on the nineteenth day of her illness

For four days before her death there was a severe diarrhea, which rather tended to strengthen the original diagnosis of typhoid fever, complicated by a pneumonia

Autopsy three hours after death Lungs almost completely consolidated, save a small area along the anterior borders of both A small area of pleuritic adhesions was found at the left apex posteriorly Spleen was normal, liver also Intestines pale, with some distention of the upper ileum, the lower portion being collapsed and empty The small gut was entirely normal, save a very slight evidence of congestion about the lower one third Enlargement of the mesenteric glands of the lower ilium, none however larger than a pea Colon normal Bacteriologic examination of the lungs showed presence of diplococcus pneumonia, with no other organisms present

In the recent literature on the subject of typhoid fever, by several authors, notably Osler, a great deal of stress is being laid on the occurrence of typhoid fever without intestinal lesions In the case just related many of the symptoms pointed to a typhoid fever, enough certainly, unconfirmed by the Widal test or diazo reaction, which were thought unnecessary in view of the symptoms present, yet no lesions save slight mesenteric gland enlargement were to be found in the abdomen

As to the pneumonia The child was seriously sick for ten days before any signs were apparent in the chest, and no symptoms save the cough that would lead one to think of pneumonia, an annoying symptom which is frequently present, in the writer's experience, in typhoid fever occurring in children* The question to be settled, and which I trust will be brought out in the discussion is, was this a case of typhoid fever—*sine* intestinal lesions—complicated with pneumonia, was it a case of continued fever with a coincident pneumonia, was it a central pneumonia from the beginning with manifestations in the chest delayed until the eleventh day, or shall we class it as a typhoid pneumonia?

Osler states that "the term typhoid pneumonia is commonly used to designate cases with adynamic symptoms and it is to be distinguished from those cases in which typhoid fever begins with a definite pneumonia, the so-called *pneumo-typhus* of foreign writers ' Tyson refers to typhoid pneumonia in the following "The term typhoid pneumonia is one in common use by many who have no definite notion of its meaning, and, like the term typho-malarial, has occasioned confusion In the first place the case may begin as a lobar pneumonia, the intestinal symptoms appearing at the end of the first week or later, at which time also the spots may appear, establishing the diagnosis, while the usual crisis of pneumonia fails to make its appearance Again, a pneumonia may supervene in the second or third week of typhoid fever as a complication in which the true relation is less difficult to determine Finally there may be a true pneumonia, to which stupor a dry tongue, and generally adynamia may be added, without the distinctive lesions of typhoid fever This is true typhoid pneumonia which it may not always be possible to separate from the typhoid fever beginning with a pneumonia Both of the forms of pneumonia may be caused by the typhoid bacillus or the pneumococcus '

Many interesting points are suggested by the history of this case which would perhaps enlarge the scope of the discussion, as the use of oxygen in pneumonia, hydrotherapy, etc, but these points have been purposely omitted by the writer that this one may be the more fully discussed Is the use of the term "typhoid pneumonia" justifiable?

It occurs to the writer that its use in the case related, in light of the symptoms and postmortem findings is justifiable, and should be limited to such cases, but without a postmortem the term should be used with caution and extreme discretion

DISCUSSION

Dr Slagle of Minneapolis—My experience has confirmed my first teaching in the University of Louisville that we have typhoid pneumonia, properly so called, and that we have typhoid fever with pneumonia I have no doubt from the very good history Dr Tuley gave of that case, that it was originally a case of typhoid fever, sine lesions of the intestines, which can occur, the pneumonia supervening later on, that it was not a case of typho pneumonia, although I believe that is a proper term I have seen made cases of typhoid fever, with pneumonia supervening In regard to the diagnosis of typhoid fever in young children My experience is that it is one of the most difficult problems in diagnosis to at all times correctly diagnosticate typhoid fever in young children There are a number of very good physicians who dispute that very young children ever have typhoid fever I am sure I have seen at least two cases of typhoid fever in infants, one about a year old and the other about eighteen months They both occurred during an epidemic of typhoid fever in our city, Minneapolis We had between four and five hundred cases of genuine typhoid fever in Minneapolis The remarkable part of it was that it was an epidemic of typhoid fever during what is supposed to be the healthy season of the year, the only instance of an epidemic of typhoid fever that I have seen in the winter time We did not succeed in finding the cause of the epidemic Some attributed it to the water, but that was not proven to be the cause, at least many of us were skeptical about that There were some cases of typhoid fever in quite young children One case I was called to see, which others had seen, and the point hinged on the diagnosis I am satisfied from the symptoms present and the way the case ran that it was a case of genuine typhoid fever in a child twelve months old, whose mother had just recovered from typhoid fever and had been nursing it I have found it one of the most difficult things in all the field of diagnosis to make a definite diagnosis of typhoid fever, at least anything like early, in young children, and to differentiate it from meningitis or from influenza or from certain bowel troubles

Dr J P Crozer Griffith, Philadelphia—Some of you who have been reading the papers know that Philadelphia has the great honor of having about four or five times as much typhoid fever as any other city in the United States During the past year we have had a shocking epidemic of it I am quite thoroughly convinced that typhoid fever is much more common in young children, even in infants, than it is ordinarily supposed to be The New York physicians, at least many of them, have taken the ground that it is very rare Northrup has never seen the lesions of typhoid fever in children Recently, I had the pleasure of carrying the war into the enemy's camp, when I lectured to Dr Northrup s students in the hospital on this subject, and narrated many cases I have seen I have seen typhoid fever in a child three months old, which is the youngest I have known The youngest case heretofore reported was recorded by Gerhardt a number of years ago in a child three months old The child was in the same room with its mother, who had typhoid fever, but who did not nurse it all, and it had the usual symptoms of typhoid fever I have seen typhoid fever at twelve months, twice at nineteen months, and several times under two years Many of these cases were corroborated by the spots and spleen, and others by the blood examinations repeatedly made I saw a child last winter, of two years, with the slight lesions of child's typhoid Two physicians of Montreal have recently written an interesting article in the Montreal *Journal*, recording nine cases which they could recognize as undoubted cases of typhoid, yet there were no lesions of typhoid fever A curious thing is that in fetal typhoid fever there are no intestinal lesions There were about ten cases of fetal typhoid fever reported before the recognition of the Eberth bacillus became general, that is, before you could differentiate it well from the colon bacillus You know many mistakes at first originated in the differentiation between the Eberth bacillus and the colon bacillus Up to the time of the possibility of the clear differentiation between these organisms, there were only about ten cases, and since then there have been about nine cases of undoubted fetal typhoid fever, the children born from typhoid mothers, all dying before or after birth, and in all cases the Eberth bacillus was differentiated In every one of the nine cases there was a total absence of lesions in the intestine The mesenteric glands, of course, were enlarged I am very skeptical about the diagnosis of the case reported by Dr Tuley as typhoid, simply because the symptoms were so developed I have watched closely these cases of slowly developing symptoms of pneumonia a number of times until the crisis occurred

Dr **A C COTTON**, Chicago—I do not see any objection to the term typhoid pneumonia as expressing a complication of typhoid fever I don't see what objection there would be to typhoid bronchitis I remember looking the matter up very carefully a number of years ago in the preparation of a paper read before the Chicago society I took a hundred cases of typhoid fever, selected only on account of the complete nature of the histories Two thirds of them were from hospital records, the remainder from private practice, and 68 per cent of those cases showed positive pulmonary lesions, from mild bronchitis to pneumonia I do not know what harm there is in saying typhoid bronchitis as indicating a bronchitis complicating typhoid fever I do not know that we should attach any significance pathologically to the co existence of typhoid fever and lobar pneumonia, but I think that is a convenient way of designating the complication If it be indisputably a case of pneumonia, the presence of pneumococcus being demonstrated at the start, and the devolpment of unquestionable typhoid fever following, it would seem better to call it pneumo typhoid

Dr **H M McCLANAHAN**, Omaha—I think if we gave more attention to the matter we would find more cases of typhoid fever in children When we recognize that much of the typhoid fever comes from milk, there is no reason why the child should not be exposed more than the adult There is no reason why its intestinal tract should not be more susceptible My experience is that typhoid fever in children is comparatively mild in the majority of cases Perhaps, first and most frequently, it is mistaken for malaria In this day, with the aid of the microscope, that is hardly necessary It has been said that a case of malarial fever that did not yield to quinin in a week was not malarial fever Another fact I have observed is that the rose colored spots do not remain as long in typhoid fever in children as they do in adults, and sometimes we overlook them They are not as numerous and prominent, and are more evanescent in character Constipation, rather than diarrhea, is the rule in typhoid fever of children So less importance can be attached to diarrhea in making the diagnosis than is true in the adult I saw a child in which a diagnosis of meningitis was made, and I think it may be stated that the symptoms of meningitis, with high fever, closely simulate those of typhoid fever Meningitis, I think, is rather rare in children, except where it is secondary to ear trouble or something of that kind In most cases, we may expect the cerebral symptoms to be very prominent before we can make a positive diagnosis I think there is no doubt typhoid fever is more common in children than the older practitioners have been led to believe I know many doctors prescribe for a child without having it undressed to examine it

Dr **EDWIN ROSENTHAL**, Philadelphia—The question was: "Is the use of the term 'Typhoid Pneumonia' justifiable?" I take the stand that "typhoid pneumonia" is wrong, wrong in every respect I can not conceive that there should be two diseases under one name The cases of typhoid fever I see are, perhaps, the worst that can be seen in the city During the last epidemic I saw some cases in which the temperature was subnormal, the temperature falling to 96 degrees, and one case remained for one week at that degree and then rose and took its usual course If a case of typhoid fever becomes complicated with pneumonia, the pneumonia is only an addition to it If a man tells me he has a case of typhoid pneumonia, I do not know whether he means that he has a typhoid fever complicated with pneumonia or a case of pneumonia that has fallen into a typhoid state

Dr **HENRY E TULEY**, Louisville, in closing—At first we were puzzled to make the diagnosis, the rose colored spots appearing, then pneumonia following, and the fact that on postmortem we found no lesion in the intestine was interesting I think it is clearly understood that the prefix "typhoid" in the term "typhoid pneumonia" refers only to the typhoid state and not to a typhoid fever I think we should use it very carefully, and preferably, not at all I appreciate what the chairman said about diagnosticating late pneumonias, where the signs are difficult to find although a careful examination of the chest is made I think we should only use the term "typhoid pneumonia" when we mean the typhoid state which has developed in a case of pneumonia

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AUTO-INFECTION VERSUS TYPHOID FEVER AS SEEN IN YOUNG CHILDREN

Presented to the Section on Diseases of Children, at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY W C HOLLOPETER, M D
PHILADELPHIA PA

An irregular type of fever incident to auto infection is frequently found in artificially reared children It is also encountered in young adolescence, and may be found in breast-fed children of irregular habits When associated with a depressed system or unhygienic surroundings the fever is most likely to assume a more protracted and intermittent type When found in breast-fed children, the fever is suddenly ushered in at a high grade (103 to 104 degrees), very frequently sustaining this elevation of temperature for several days, when it may break into an intermittent form The fever associated with intestinal toxemia has many times led to the diagnosis of typhoid fever, from which it can only be discriminated in young children by a careful analysis of the various symptoms, conditions and surroundings, diet and exposure and all the many complications incident to artificial management

The clinical picture of a child suffering from auto-infection so closely resembles those many reported cases of typhoid fever that I will attempt to discriminate between the symptoms of these two forms of fever

In early life, the period prior to six months, excessive or improper food is usually rejected by vomiting, and consequently we do not, as a rule, find many cases suffering from acute milk poisoning, except from atmospheric causes, but shortly after this age, when the food enters the intestinal tube more freely, irregular and improper feeding finds its primary manifestations in a mild degree of irregular fever The more intense expressions of auto intoxication may even culminate in a severe form of nerve paralysis, as illustrated in mid summer diarrheas It is in the milder classes of cases, however—not in those of severe acute milk infection, as seen frequently during hot weather, nor in the wasted infant approaching general atrophy —that we meet our most troublesome problem in differential diagnosis

The true clinical picture of auto intoxication is most frequently found in young children suffering from a prior existing chronic intestinal catarrh Children who have recently passed through any of the exanthemata are more prone to inherit intestinal indigestion from these eruptive disorders and hence are more likely to contribute common examples of acute auto infection At the end of the first dentition, if this has been accomplished under dietetic difficulties and unfavorable environments, it will offer the period of greatest frequency The general physiognomy of a child to assume this type of fever is suggestive of the many internal pangs through which it has passed, the child bears the marks of disturbed nutrition, the circulation is usually poor, hence the surface will be found cool, especially the hands and feet, the skin is dull, perhaps harsh and dry, probably earthy or yellowish The child is more likely to be languid than irritable The discoloration under the eyes is quite marked, pink in young children, darker in older To this general physiognomy of a young child suffering from this predisposition, we often have superimposed, sudden, acute excerbations due to some recent dietetic errors, or probably some emotional or climatic disturbances, according to the temperament of the individual, as illustrated in the following cases

Case 1—Harold, aged 6 An unusually healthy child of healthy parentage Normal labor Had for some days looked pale, appeared languid and constantly irritable, gastric irritation pronounced, associated with heavily furred tongue One morning he ate a breakfast of heavy food very rapidly, at noon complained of headache, and during the evening was feverish, having a temperature of 102⅘ degrees Following morning he seemed better was cheerful and lively, attended school until noon Toward evening, however, fever returned with temperature 102¼ degrees again The next morning temperature fell to 100 Complained of headache greater part of the day, though sponged two or three times Fourth day, temperature 100 degrees, much more comfortable, no headache, temperature in the evening 102 degrees Fifth day, severe headache early in the morning Evening, temperature 100 degrees Injection of glycerin and warm water, followed by a large bowel movement Thorough irrigation with warm water and bicarbonate of soda removed a number of hard cheesy masses Succeeding this the temperature was 99 degrees, much more comfortable Evening temperature reached 102⅗ degrees At this period he commenced to vomit Seventh day temperature was normal, evening temperature was 101⅖ degrees Eighth day the morning temperature was 99 degrees, evening temperature 102 degrees Ninth day, morning temperature 99 degrees, noon temperature 102 degrees

NURSE'S REPORT

Nov 30, 12 m Temp 105, pulse 130, resp 24 3 p m Temp 105, pulse 128, resp 24 5 p m Temp 104 3, pulse 124 resp 24 9 p m Temp 104 3 pulse 120, resp 24 12 p m Temp 103 3, pulse 124 sponge bath

Dec. 1, 2 a m Temp 104 3, pulse 124, resp 26, sponge bath 5 a m Temp 103, pulse 112, resp 24, slept about six hours complained of headache 7 a m Temp 103 1, pulse 112 resp 22 8 a m Sponge bath two bowel movements 9 a m Temp 103 3, pulse 118, resp 22 12 m Temp 104, pulse 120 2 p m Temp 105 pulse 126, resp 28 4 p m Temp 104 3, pulse 120, resp 24 7 p m Temp 105, pulse 124, sponge bath 10 p m Temp 105, pulse 124, resp 24, sponge bath 12 p m Temp 104 3, pulse 120, resp 24, sponge bath

Dec 2, 2 a m Temp 103 3, pulse 126, resp 24, sponge bath 4 a m Temp 104 3 pulse 124, resp 24, sponge bath 6 a m Temp 104, pulse 124, resp 26, sponge bath 8 a m Temp 104, pulse 124, resp 26, sponge bath 10 a m Temp 104, pulse 116, resp 24, sponge bath Record of fifth day in bed Complaint of headache, vomited twice, tongue heavily coated, three bowel movements, eleven sponge baths, patient sleepy and stupid most of the time 12 m Temp 103, pulse 120, resp 20, sponge bath 4 p m Temp 104 3, pulse 120, resp 24, sponge bath 6 p m Temp 105, pulse 120, resp 24 A general pack reduced temperature to 101 8 p m Temp 103, pulse 120, resp 24 10 p m Temp 103 pulse 124, resp 26 12 p m Temp 105, pulse 124, resp 26, pack

Dec 3, 2 a m Temp 102, pulse 112, resp 28 4 a m Temp 104, pulse 122, resp 30 6 a m Temp 102, pulse 122, resp 30 8 a m Temp 103 3, pulse 124, resp 30 Record of sixth day of patient in bed In 24 hours, six sponge baths, two general packs, with continued abdominal pack, bowels distended, tongue heavily coated, bowel movements mixed with mucus, patient sleepy and stupid most of the time 10 a m Temp 102, pulse 112, resp 20 12 m Temp 104 3, pulse 116 resp 20, pack 2 p m Temp 104, pulse 120, resp 24 4 p m Temp 103 3, pulse 118, resp 24 6 p m Temp 104 3, pulse 118, resp 24, pack 8 p m Temp 102, pulse 114, resp 24, 10 p m Temp 103 3, pulse 114, resp 20 11 p m Temp 103 3, pulse 118, resp 20 12 p m Temp 104, pulse 124, resp 24

Dec 4, 2 a m Temp 104, pulse 120, resp 28 4 a m Temp 103 2, pulse 118, resp 28 6 a m Temp 103 2, pulse 118, resp 26 8 a m Temp 103, pulse 116, resp 24 Record of seventh day In twenty four hours four general packs, with abdominal pack, patient twitched all night and very stupid when aroused, bowels distended tongue heavily coated, with red margin 10 a m Temp 103 3, pulse 118, resp 28, 12 m Temp 103 2, pulse 118, resp 28 2 p m Temp 104, pulse 120 resp 28 4 p m Temp 105, pulse 120, resp, 28 5 p m Temp 102, pulse 120, resp 28 7 p m Temp 104, pulse 120, resp 28 9 p m Temp 103 1, pulse 120, resp 24 11 p m Temp 103 4, pulse 120, resp 28 12 p m Temp 105, pulse 124, resp 28

Dec 5, 1 a m Temp 103, pulse 120, resp 26 3 a m Temp 104, pulse 120, resp 24 5 a m Temp 103 3, pulse 120, resp 24 7 a m Temp 103, pulse 118, resp 22 9 a m Temp 101, pulse 114, resp 20 Record of eighth day Three movements of bowels voided urine every four to six hours, abdominal pack, three general packs, still very stupid and twitched all night, bowels distended heavy brown coated tongue, with red tip 10 a m Temp 103, pulse 112, resp 20 12 m Temp 103 1, pulse 120, resp 20 2 p m Temp 103 1, pulse 121, resp 20 4 p m Temp 104, pulse 124, resp 20 5 p m Temp 101, pulse 126, resp 24 7 p m Temp 103, pulse 124, resp 24 9 p m Temp 103 2, pulse 120, resp 24 10 p m Temp 103, pulse 108, resp 20 12 p m Temp 103, pulse 108, resp 24

Dec 6, 2 a m Temp 102 3 pulse 110, resp 20 4 a m Temp 103, pulse 114 resp 24 6 a m Temp 103 3, pulse 118; resp 24 8 p m Temp 103 1, pulse 116, resp 21 Record of ninth day Three bowel movements, voided urine, two general packs, abdominal packs renewed every two hours, twitched all night, slept well until 2 a m, very restless from 2 to 5, bowels distended, brown coated tongue with red tip 10 a m Temp 102 3, pulse 112, resp 21 12 m Temp 103, pulse 110, resp 26 2 p m Temp 103 3, pulse 118, resp 21 4 p m Temp 103 4, pulse 118 resp 28 6 p m Temp 102 3, pulse 118, resp 28 10 p m Temp 102 3, pulse 118, resp 28 12 p m Temp 102 3, pulse 118, resp 28

Dec 7, 2 a m Temp 102 pulse 118, resp 26 4 a m Temp 102 1 pulse 116, resp 28 6 a m Temp 102 3 pulse 116, resp 28 8 a m Temp 102 3 pulse 114, resp 28 Record of tenth day Two bowel movements, voids urine about every three hours, one general pack, with abdominal pack, still very stupid and sleepy and twitched all night bowels less distended tongue little better 10 a m Temp 101 3 pulse 108, resp 24 12 m Temp 101 2 pulse 108 resp 26 2 p m Temp 101 3, pulse 110, resp 24 4 p m Temp 101 4, pulse 108, resp 21 6 p m Temp 101 4, pulse 108 resp 24 8 p m Temp 101 4, pulse 108 resp 28 10 p m Temp 101 2, pulse 110, resp 28 12 p m Temp 101 1 pulse 108, resp 26

Dec 8 2 a m Temp 101, pulse 108, resp 28 4 a m Temp 101, pulse 108 resp 26 6 a m Temp 101, pulse 106 resp 26 8 a m Temp 100 2, pulse 100, resp 26 10 a m Temp

99 3, pulse 90, resp 24 12 m Temp 99, pulse 90, resp 24 Record of eleventh day of patient in bed One bowel movement, discontinued abdominal pack, slept well, more rational when aroused, still twitches considerably, bowels less distended, tongue better, still red tip 2 p m Temp 99 3, pulse 90 resp 24 4 p m Temp 99 3, pulse 90, resp 24 6 p m Temp 101 1, pulse 86, resp 26 8 p m Temp 100 2, pulse 90, resp 24 10 p m Temp 100, pulse 84, resp 54 12 p m Temp 100, pulse 84, resp 24

Dec 9, 2 a m Temp 99 3, pulse 84, resp 29 4 a m Temp 99, pulse 86, resp 29 6 a m Temp 98 3, pulse 84, resp 29 8 a m Temp 99, pulse 90, resp 29 Record of twelfth day Bright and rational when aroused, ceased twitching about 1 a m, pulse drops beat every three or four beats, tongue still red tip, strychnin renewed, 1/60 every fourth hour

8 a m Temp 99⅕, pulse 98, resp 29 12 m Temp 99⅕ pulse 98, resp 29 8 p m Temp 99⅕, pulse 76, resp 20 Record of day Nourishment in twenty four hours ℥xx, brandy ʒiii, pulse drops beat every three or four beats, patient very weak, quiet, rational, slept thirteen hours

Dec 10, 8 a m Temp 99⅕, pulse 80, resp 18 12 m Temp 99, pulse 80, resp 18 8 p m Temp 99⅕, pulse 76, resp 18 Record of fourteenth day Nourishment ℥xxii, brandy ʒiii, slept about fifteen hours, patient very weak, pulse drops three beats

Dec 11, 2 a m Temp 76, pulse 99, resp 18 9 a m Temp 76, pulse 99⅕, resp 18 12 m Temp 76, pulse 99, resp 18 8 p m Temp 79, pulse 98, resp 18 Record of fifteenth day Nourishment ℥xxii, brandy ʒiss, pulse drops every eight or nine beats, very restless part of night, slept fourteen hours

Dec 12, 1 a m Temp 98⅖, pulse 78, resp 20 7 a m Temp 98⅖, pulse 78, resp 18 1 p m Temp 98⅖, pulse 70, resp 18 8 p m Temp 98⅖, pulse 74, resp 18 Record of sixteenth day Nourishment ℥xxv, brandy ʒiss, bowels constipated, urine ℥xl, slept fourteen hours, pulse drops every third beat, patient still very weak

Dec 13, 8 a m Temp 98⅖, pulse 80, rep 18 1 p m Temp 98⅖, pulse 84, resp 18 8 p m Temp 98⅖, pulse 84, resp 18 Record of seventeenth day Nourishment ℥xxviii, brandy ʒiss, bowels constipated, urine ℥l, pulse drops every ten beats, slept fourteen hours

Dec 14, 8 a m Temp 98¾, pulse 84, resp 18 12 m Temp 98⅖, pulse 84, resp 18 8 p m Temp 98⅖, pulse 84, resp 18 Nourishment in twenty four hours ℥xxviii, brandy ʒiss, one bowel movement, constipated, urine ℥xxxviii, slept fourteen hours out of twenty four, was very restless part of night

Dec 15, 1 a m Temp 98⅖, pulse 84, resp 18 8 a m Temp 98, pulse 80, resp 18 1 p m Temp 98-⅕, pulse 84, resp 18 Nourishment ℥xxviii, brandy ʒiss, one bowel movement by enema, urine ℥xl, slept fourteen hours out of twenty four, pulse drops every ten or eleven beats

Dec 16, 12 mid Temp 98, pulse 80, resp 18 8 a m Temp 98, pulse 78, resp 18 12 m Temp 98 2, pulse 78, resp 18 8 p m Temp 98 3, pulse 74, resp 18 Slept fourteen hours

Dec 17, 1 a m Temp 98, pulse 68, resp 18 8 a m Temp 97, pulse 70, resp 18 12 m Temp 98 2, pulse 74, resp 18 8 p m Temp 98 3, pulse 80, resp 16 Slept fourteen hours, pulse drops every three to five beats

Dec 18, 8 a m Temp 98, pulse 68, resp 16 12 m Temp 98 2, pulse 74 8 p m Temp 98 2, pulse 74 Slept thirteen hours, one bowel movement by enema

Dec 19, 8 a m Temp 98, pulse 78, resp 18 12 m Temp 98 2, pulse 78, resp 18 8 p m Temp 98 3, pulse 78, resp 16 Slept fourteen hours

Dec 20, 8 a m Temp 98 2, pulse 68, resp 16 12 m Temp 98 2, pulse 74, resp 18 8 p m Temp 98 2, pulse 74, resp 16 Slept thirteen hours

Dec 21, 8 a m Temp 98 2, pulse 80, resp 16 12 m Temp 98 2, pulse 74, resp 18 8 p m Temp 98 2 pulse 60, resp 18 Slept about fourteen hours

Dec 22, 9 a m Temp 98 2, pulse 68, resp 16 12 m Temp 98 3, pulse 70, resp 16 4 p m Temp 99 2, pulse 80, resp 16 8 p m Temp 99 3, pulse 80, resp 16 Patient moved to another room which caused a rise in temperature

Dec 23, 8 a m Temp 100, pulse 80, resp 16 1 p m Temp 101 4, pulse 100, resp 16 8 p m Temp 102 3, pulse 108, resp 16 12 p m Temp 100, pulse 104, resp 16 Slept sixteen hours

Dec 24, 8 a m Temp 99 3, pulse 90, resp 16 12 m Temp 99 3, pulse 82, resp 16 8 p m Temp 99 3, pulse 82, resp 16 Slept sixteen hours

Dec 25, 8 a m Temp 98, pulse 74, resp 16 1 p m Temp 98, pulse 78, resp 16 8 p m Temp 99, pulse 80, resp 16 Slept fourteen hours

Dec 26, 8 a m Temp 98, pulse 68, resp 16 1 p m Temp 98 2, pulse 70, resp 16 8 p m Temp 98 3, pulse 70, resp 16 Slept fifteen hours

Dec 27, 8 a m Temp 98, pulse 78, resp 16 1 p m Temp 98, pulse 78, resp 16 8 p m Temp 98 1, pulse 78, resp 16 Slept thirteen hours

Dec 28, 8 a m Temp 98, pulse 78, resp 16 1 p m Temp 98 3, pulse 80, resp 16 8 p m Temp 98 2, pulse 78, resp 16 Slept thirteen hours

Dec 29, 8 a m Temp 99, pulse 82, resp 16 1 p m Temp 99, pulse 82, resp 16 8 p m Temp 90, pulse 80, resp 14

Dec 30, 8 a m Temp 98 2, pulse 80, resp 14 12 m Temp 98 2, pulse 80, resp 14 8 p m Temp 98 5, pulse 80, resp 14

Dec 31, 8 a m Temp 98 2, pulse 78, resp 14 8 p m Temp 98 1, pulse 78, resp 14

The case thus outlined ran forty-nine days of elevated temperature, associated with delirium, alternating with profound stupor, unconscious bowel movements, irregular heart action The boy had nose-bleed, rose colored spots, and assumed most strikingly the general physiognomy of typhoid fever I believe that the *prior-existing intestinal catarrh* was *provocative* of an acute intestinal infection, producing a decided impression on the system, benumbing the reflexes and locally exciting an inflammation of the small bowel He gave negative response to Widal's test

In striking contrast to the above history of a prolonged auto-infection fever, permit me to briefly outline what I believe to be a case of typhoid fever in a child of one year

Case 2 —A B, 1 year old, breast fed, an unusually well developed child, weighing at the time of the commencement of his illness about twenty pounds, having had none of the eruptive fevers, and but slight disturbance incident to the cutting of the six incisors The general regimen of the child was up to this time unusually favorable The family had recently moved into an old house where the plumbing was not up to the highest sanitary model The child was apparently well up to the day of seizure He was ill but a few hours I found him with a temperature of 105 degrees, loose bowels, moderately distended abdomen, slow, irregular pulse, respiration quickened, general disinclination to be disturbed, photophobia The fever sustained this height, varying from 104 degrees to 105⅕ for ten days, when it quickly, within twenty four hours, reached the normal without any subsequent recurrence The child, at the end of the second week, or four days after normal temperature had been reached, seemed perfectly well and happy The blood gave a positive Widal test for typhoid In this case we had vomiting, loose bowels, five to six per day, not necessarily offensive, evidence of imperfect digestion was present, but no masses were voided We failed to find the rose colored spots, the abdomen was soft and slightly painful, the spleen was undoubtedly enlarged, the tongue dry no nose bleeding The case seemed to be more of the cerebral type, as the sphincters lost their control, yet we had no subsultus, and the case closely resembled a meningitis

The diagnosis of the case rests on the continued fever, tympanitis, enlarged spleen, and last, and probably the most certain, the positive response of the Widal test I admit the overwhelming difficulty surrounding a positive diagnosis of typhoid fever in so young a subject from malarial, influenzial fever, ileocolitis, meningitis, or possible acute tuberculous, or auto infective fever From malarial fever we make the diagnosis by the absence of *plasmodium malarii*, and by the fact that I gave five grains of quinin per rectum for five days without any response in the temperature The temperature curve was too uniform for malarial infection From ileo colitis the diagnosis was easy, as the child was supported on mother's milk drawn from the breast and administered by a spoon While the case assumed a cerebral type, it was most evidently not one of meningitis No irregular respirations No constipation The pulse was not in keeping with the respiration No local paralysis No retracted abdomen The temperature was too high for meningitis The unequal and irregular class of symptoms which go to make up a severe case of influenza in the very young afford the most probable picture to which we may refer this assemblage of symptoms, yet the Widal test should incline us to regard it as a true, uncomplicated case of typhoid fever The urine in this case, while greatly reduced in quantity and containing an excess of urates and some oxalates, was free from indicanuria—a more positive evidence of auto-infection

I have selected the two cases of fever in young children, because they both stand on debatable ground, yet both possessing strong evidence of correct diagnosis The older child, with slow onset and general malaise, irregular type of fever followed by a most unusual form, gave strength to the assemblage of symptoms suggestive of true typhoid, yet, on closer scrutiny, they would negative this opinion, especially with a more conclusive test of Widal's reaction, ruling it out of this category

The second case, the young child of one year, with an assemblage of symptoms wholly unlike the unusual symptoms of typhoid, was undoubtedly a genuine one, not only by reason of exposure, but by the positive reaction test and the absence of indicanuria

The whole subject of auto-intoxication, as found in young subjects, is exceedingly fascinating as possessing such a kaleidoscope of passing, changing symptoms as to bewilder the investigator It has passed through many changes of meaning since its recognition Auto-intoxication through the intestinal canal consists of retention of the usual abnormal material in the bowels The result of this retention is decomposition, putrefaction and fermentation of the waste part of the food, giving us formic, buteric and lactic acid, and a generous amount of offensive gases pressing on the intestinal filaments of the pneumogastric and other nerves, giving rise to many local and general symptoms The decomposition of albuminous products gives rise to the formation of phenol, indol, skatal and tyrosin With knowledge of these many products of imperfect assimilation in the intestinal tube, a varied train of symptoms must necessarily arise, suggesting directly a disorder of the bowels themselves and reflexly of the respiratory system as seen in reflex bronchitis, nervous cough, local and general convulsions The circulation is positively disturbed, oftimes profoundly influenced, producing tachycardia, cold hands and feet, livid lips, blue eyelids, erythema fugax, and perspiring head and limbs The kidney may assume an effort to dislodge the intruder, as found in lithemic urine, excessive uric acid and indicanuria This long line of symptoms may be greatly enlarged, according to the personal equation of the investigator and the child's environments We possess one positive proof that they are actually associated with the poison retained in the intestinal tube, because the symptoms disappear when the fermenting masses are removed

That form of auto intoxication found in adults, characterized by depressed spirits, disgust for all exertion, retiring disposition bordering on melancholia—the pessimistic individual—has its parallel in the young child in feverishness, fretfulness, destructive ness, nameless crying, aversion, and unusual perversion of the childish state

Indicanuria I have found nearly always suggestive of auto intoxication in young children and precedes the more serious symptoms by many days This condition of the urine has not received the careful study it merits Constipation is not always associated with auto-intoxication, as we might first imagine

Oftimes the more fluid the intestinal movements are the more rapid may be the absorption of the poisonous material In these cases the urine is highly noxious, and a good example of this diarrheal form of auto-intoxication is seen in cholera However, in cholera the absorption of toxins seems to be continuous, while we may have frequent colliquative evacuations The convulsions in young children suffering from gastro-intestinal disturbances may be explained better in terms of auto-intoxication than by the usual reflex theory or the undeveloped cortex

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SUBNORMAL TEMPERATURE IN TYPHOID FEVER

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10, 1898

BY H H FREUND, M D

PHILADELPHIA

The vagaries of the temperature history of typhoid fever are familiar to us all While the mass of recorded temperature shows a certain regularity extending over a period of nearly three weeks, in historic or average cases, yet our experience brings to our knowledge a series of cases at variance with the classic course These differences exist in cases gathered when happening in either childhood or adult life While in adult life we can with certainty prognose the febrile history in an average case, in childhood this is more difficult, as the vagaries of temperature are so elusive that many days may elapse before the true condition can be determined The degree of temperature is of different significance in childhood and adult life—what would be considered a dangerously high temperature in the adult would not carry the same import in the child Why this should be so, would seem to me to be due to the greater resistance of the adult against febrile disturbances due to septic influences

Why do our cases often present subnormal temperatures? is the subject upon which I would want the gentlemen to throw some light I have seen several instances of this phenomenon, but none in which this symptom was so marked and in which it persisted so long as in the case of a young boy whose history I will relate

The patient was 9 years old, healthy, well-proportioned, and had complained for several weeks before medical advice was sought When first seen, he had probably advanced well on to the second week of typhoid, with roseola well marked At the beginning of the third week, the temperature dropped as low as 96 4 degrees, axillary and *per orem* For eight days the temperature persistently remained about this degree During this time the patient was otherwise doing well, skin cool and dry, intellect good urination good, bowels opened each day presenting nothing unusual, no evidences of internal hemorrhage Patient felt well, did not complain of any unusual aberrations, finally on the eighth day, we were enabled to record a natural temperature This long-continuance was a source of great anxiety to all concerned, yet despite all our efforts to restore the normal condition, no means seem to have been of the least avail

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An Encouragement —In the United States 70 000,000 gallons less of alcohol were consumed in 1896 than in 1888

OBSERVATIONS IN DIPHTHERIA

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association, held at Denver Colo June 7-10 1898

BY H D JEROWITZ, M D
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It is not the purpose of this paper to lecture upon diphtheria and its treatment before this assembly of eminent physicians nor to enter into any detailed bacteriologic study which would perhaps be only an incomplete reiteration of principles thoroughly known discovered and taught by some of the other members present, but merely to base my remarks upon conclusions drawn from an impartial observation covering an experience of seven years, which, as has been my good fortune, has been much larger than one would naturally expect for that short space of time As to conclusions, it must be remembered that experiences vary with different observers, depending 1, upon the virulence of the epidemic, and 2, upon the mode of treatment A third item may also be mentioned, as it plays an important rôle in deductions made in this article, and that is the susceptibility and resisting powers of certain classes or sects of people

From this it is evident that unless the observation includes all the different sects and all kinds of epidemics, statistics would not be reliable Such an extensive experience, however, could not be expected from a general practitioner in a town of 150,000 inhabitants, having no children's hospital or any other opportunity of studying the cases, except as they occur in private practice The observations include several hundred cases of "exudative" or "membranous" angina, having the diphtheria bacillus The majority of these cases were comparatively mild and some could not be distinguished from an ordinary sore throat with either a punctate or a coalescent exudation A certain number (about 8 per cent) were followed by paralysis and some had laryngeal involvement (about 4 per cent) For a long time I was reluctant to call these cases diphtheria, as they did not appear serious enough

It seems that the ancient diphtheria described in text books and the modern diphtheria, having as its principal diagnostic point the presence of the Klebs Loeffler bacillus without regard for the clinical appearance, are two different things The books describe diphtheria as a severe sickness with profound septic poisoning, a depressed heart and a rapid tendency to cardiac failure, the latter being the chief cause of death, and occurring often inside of twenty-four hours The patient is said to present an anemic appearance and the fever is not high The membrane upon which they dwell a good deal is said to be gray and *within* the mucous membrane, not a superficial exudation It is not detachable, as it is really the mucous membrane itself, whose only possible way of removal is sloughing off, leaving a raw ulcerated surface which has to heal The glands of the neck are enlarged, which is also considered a constant symptom The mortality is given all the way from 50 to 100 per cent, and some physicians even today believe that when a case recovers it was not diphtheria

The modern diphtheria of today is any sore throat, even without exudation, which will give a culture of the Klebs-Loeffler bacillus The child may apparently be well and play, there need be no cervical enlargement, no dirty membrane which is undetachable, the principal thing is the germ In some of these cases there is a decomposition going on in the throat with septic infection and usually a fatal result It is evidently the fact that formerly only these septic cases were considered diphtheria, hence, the great rate of mortality But now, when the diagnosis is made so much oftener, I find that diphtheria is not such a dreadful disease as generally supposed, and whose danger is like in measles, scarlet fever, etc, principally from the complications

The most important of these are involvement of the deeper respiratory passages, nephritis with uremic poisoning, septic infection, and sudden cardiac paralysis The clinical picture is about as follows Sudden onset with high fever, chilliness, and general malaise, sometimes vomiting and occasionally convulsions Very often the throat is not complained of and a diagnosis can easily be overlooked, until the condition becomes serious Such cases as these, it resulting fatally, unnecessarily increase the mortality rate, hence it should be the rule of every physician who has been called in to see a sick child to examine the throat, even though he be positive of its uselessness On examining the fauces we find a white or yellowish patch on one or both tonsils, extending sometimes to the posterior wall of the pharynx and uvula, and even further This exudation can in a great many cases be removed, but it will soon reappear If left alone it will disappear in from ten to fourteen days—sometimes longer It does not slough off, in some cases it simply loosens and is spit up, while in cases where it is more adherent it seems to become absorbed, getting thinner and thinner until it finally disappears, leaving a healthy mucous surface, which in some cases may appear slightly congested, but not raw

When the lower air passages become involved, unless the trouble begins there, the attack is usually sudden and entirely distinct from the pharynx It does not extend from the latter to the larynx, but *is a separate procees* It is recognized by the hoarse and croupy cough, and the stridulous respiration

Uremic symptoms occurred in about 5 per cent of the cases, and these would invariably have paralysis Albumin was rarely found, being absent in many cases having uremic symptoms The paralysis involved principally the muscles of the throat In three cases it affected the ciliary muscle of the eye, having the same effect as if a mydriatic had been employed In one case it involved the left arm, in one both lower extremities, in two the muscles of the back and the back of the neck, which resulted in a drooping of the head, in one beginning with the muscles of the throat, extending to the extremities, then to the muscles of the chest and finally the heart, and in still another, now under observation, the paralysis involves the sphincters of the bladder and anus and the muscles of the left hip and leg With the exception of the one fatal case and the one now under observation, the paralysis disappeared, varying in its course from one week to three months

The number of deaths was seven This is about 1¾ per cent A brief description of each would perhaps be of interest

Case 1 —Female child, age 3½ years Had been sick for a week before medical aid was received Pharynx, larynx and trachea involved Tracheotomy was advised but refused until the patient was almost exhausted It was then performed, but patient died next day from exhaustion No antitoxin used

Case 2 —Male child, age 3½ years Began slightly on tonsils, but child played on the street right along, and soon became croupy, and was so for three days before I was called Finding just a small speck of exudation on one tonsil, and having treated the other children of the family that week for a mild diphtheria, I warned the mother of the seriousness of the case, but she said the child always was croupy when ever he took cold, and disregarded the advice The next morning the condition became worse, the breathing very stridulous and difficult and the lips cyanotic After an unsuccessful attempt at intubation, tracheotomy was performed and the child at once improved The membrane involved the wound and twelve days afterward the child died at night from neglect by allowing the tube to get plugged up No antitoxin was used

Case 3 —Female child 3½ years old Took suddenly sick with laryngitis one day, and the next day the obstruction was so complete that the child was apparently dead, when intubation was attempted, but as it was not considered safe with this, tracheotomy was resorted to Then with artificial respiration and application of heat to the body, the child rallied after about five hours and was able to sit up and drink The following morning the child died of neglect, the inner tube having been laid on a table by the attendant and forgotten to be replaced, so that when the child was beginning to suffocate, the attendant in trying to remove the inner tube (which was not there) lost so much time by thinking it was caught in some way, that the child succumbed In this case no membrane was visible and no antitoxin was used

Cases 4 and 5 —These two cases were one male and one female, age 3½ years, who had septic infection and laryngeal involvement Antitoxin was used too late and shortly before death tracheotomy was performed, which relieved the dyspnea for an hour, when they succumbed to cardiac weakness dependent on the septicemia

Case 6 —Female child 3½ years old Had, together with the other children of the family, tonsillar diphtheria, which disappeared in about three or four days in all of them But in this one about three days afterward, fever developed, and a slight patch reappeared on the tonsils When the child cried there seemed to be a stridulous or sawing noise which led to an examination of the lungs There were subcrepitant râles showing that the lungs must have been involved There was no cough nor hoarseness The child was apparently well, and when asleep there was not the slightest noise with the respirations Only when the child cried could this peculiar sound be heard This child lived another week after this, dying from slow carbonic acid poisoning, as was noticed by the gradually increasing cyanotic appearance No antitoxin was used

Case 7 —This case was a tonsillar diphtheria of one side The membrane disappeared in five days by gradual absorption then came uremia and paralysis The urine was full of albumin, dropsy developed, and the paralysis increased until it involved almost the entire body Soon the albumin and dropsy disappeared, the paralysis became somewhat better, the child sat up, and in reaching for something, sudden death occurred This was about six weeks from the beginning of the illness No antitoxin had been used

In summing up these cases, No 1 might have been saved with antitoxin, if used early enough No 2 died of neglect, but antitoxin would have prevented the operation No 3 had no visible membrane, and died of neglect Nos 4 and 5 could not have been saved No 6 could have been saved with antitoxin if it had been used in the first attack No 7 might have been saved by antitoxin, but as the exudation was of short duration, and the general symptoms mild, it is a question

Thus, out of the seven fatal cases, only three could be really attributed to the disease This would make a mortality of three-fourths per cent

TREATMENT

As to the treatment, I only wish to mention a few points It is useless to detach the membrane for two reasons First, it quickly reappears, thus giving it new activity and prolonging the disease Second, by forcibly detaching, the surface is abraded, and septic infection easily follows I dare say that if you leave the membrane alone in all cases, you will have less septicemia and less deaths Gargles or sprays should be mild, antiseptic, and often When not practicable, antiseptics such as listerin, hydrogen peroxid, etc, can be administered internally Whisky for stimulation Plenty of water in all cases, and calomel when indicated, especially in uremia Iron I never employ, as by its astringent and cauterizing properties it can only interfere with natural drainage and healthy excretion With this treatment, the disease can not be cut short, nor does it prevent its extension For this we must employ antitoxin

ANTITOXIN

As to the use of this agent, I can give you my observations from an impartial standpoint The first thing noticed after using antitoxin is a reaction, an immediate effect, something that we do not observe after other remedies unless we give full doses It is therefore evident that the antitoxin is a powerful agent, and certainly produces some change in the system

The second thing noticed is that in every case where I administered antitoxin in the proper dose, the membrane disappeared inside of three days Without its use, while I have seen cases get well in the same length of time, yet the majority of cases lasted from ten to fourteen days Third, in all cases where I employed antitoxin in the beginning the larynx did not become involved, and uremia did not occur, while in cases treated without antitoxin the larynx became involved frequently, and uremia also followed Fourth, in cases where the membrane involves the larynx, trachea, and even the bronchial tubes, recovery followed when treated with antitoxin while the same class of cases before the use of antitoxin always died Fifth, neglected cases complicated with septicemia and laryngeal involvement, do not recover with any treatment Sixth, in severe cases of dyspnea, with occasional cyanosis, the use of antitoxin and emetics has obviated the necessity for tracheotomy Seventh measles as a complication is no bar to the use of antitoxin Eighth in laryngeal cases complicated with uremia or nephritis antitoxin was followed by favorable results, thus proving that uremia and nephritis are not necessarily contra-indications to the use of antitoxin Ninth, as paralysis was seen to follow only the cases of long duration, those in which antitoxin was administered early were not followed by paralysis Of those in which it was given on the second or third day it followed in about 8 per cent of the cases From this it follows that antitoxin does not prevent paralysis except indirectly by cutting short the disease Tenth, place of injection, behind scapula No abscess or other bad result followed

INTUBATION

This has been resorted to in extreme cases Some cases were rendered worse, and were at once followed by tracheotomy Some were only slightly improved, and in these the tube was removed and the patient carefully watched, so that tracheotomy could be performed immediately upon indication therefor, but the severe attacks of suffocation were only transient, and surgical intervention became unnecessary

TRACHEOTOMY

This was performed five times, all proving fatal Two of them died of neglect, two of them had profound septicemia at time of operation, and were only temporarily improved so far as respiration was concerned, and one was already exhausted from suffocation, owing to procrastination on the part of the parents The operation was always done without an anesthetic There were a great many other cases that seemed to indicate tracheotomy and looked as if they could not live more than an hour or two, yet they recovered without the operation Therefore I think that cases recovering from an early tracheotomy would have done so without it In cases dying from slow carbon dioxid poisoning from membranous bronchitis or membranous pneumonia, I did not perform tracheotomy, as it seemed to me useless

Let us summarize a few points

1 The majority of cases are mild, and affect only the tonsils and pharynx

2 The exudation lasts from one to two weeks There are exceptions to this

3 Removal of the membrane is useless, as by denuding the surface septic infection is promoted, and besides, the membrane soon reappears and remains longer than if it had not been meddled with

4 The involvement of the larynx is always sudden and comes as a new attack, and not by extension of the diphtheritic process

5 The larynx becomes involved in about 4 per cent of the cases

6 Every case complicated with uremia had post-diphtheritic paralysis

7 Laryngeal involvement is to be most dreaded between the ages of 3 and 5

8 Intubation and tracheotomy will become less and less necessary as the value of antitoxin is being recognized

9 Conclusions as to antitoxin have been given above

INDICATIONS FOR INTUBATION

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver, Colo June 7-10 1898

BY H M McCLANAHAN, M D

OMAHA, NEB

The conclusions deduced from a study of the symptoms of laryngeal diphtheria, as stated in this paper, are the result of personal observations at the bedside My sole object in presenting them to the distinguished members of this Section is to elicit their candid criticisms, that, profiting by their large experience, I may be the better qualified to decide when to act, when to defer and when to desist

When called into the presence of a little patient suffering from laryngeal diphtheria, the decision of the question whether to intubate or not is a very grave one, and we can only rightly measure our responsibility when we realize that a human life may be sacrificed by an erroneous decision Aside from the symptoms, our decision will be modified by two circumstances, namely the previous treatment and the environment of the patient Before the discovery of antitoxin, the majority of cases of laryngeal diphtheria became urgent enough to demand intubation for their relief Under the influence of this remedy 60 per cent recover without mechanical aid It will be apparent then that in a given case our decision will be modified by the fact whether antitoxin has been previously administered We may defer operation in a case already under the influence of this remedy, whereas in another case presenting identical symptoms we would feel warranted in intubating at once, because twelve to twenty-four hours must elapse before amelioration of symptoms can be expected In hospital practice, with a resident physician constantly at hand and competent to operate, surgical interference may be deferred for immediate urgent symptoms, knowing that the relief of the stenosis can be procured in a few moments In private practice, where a delay of hours might easily occur before the physician could return to the patient, greater caution is necessary My conclusions are deduced from cases in family practice, and it is from that standpoint that I wish to discuss the subject

Let us briefly note the symptoms that indicate the necessity for intubation:

The character of the respiration —Labored inspiration is a constant symptom in all varieties and degrees of laryngeal stenosis The importance of this symptom depends upon the amount of muscular effort expended in pumping air into the lungs There is no way of measuring this expenditure of vital force more certainly and accurately than by observing the extent of the epigastric recession with each inspiration Where there is noticed a deep depression, we may be certain that the patient is in a critical condition, and we have no assurance as to how long he may be able to continue this effort Intubation here meets two important indications More oxygen is received into the lungs, and violent muscular effort is suspended, increasing the vitality and saving the strength of the patient Labored expiration is an important symptom; to my mind, the most important evidence of a pseudo membrane in the larynx While this is usually associated with labored inspiration and other symptoms, the two are not always in proportion, for example, in one case each expiratory effort was prolonged and labored, with a pause at the end of the inspiratory act, but inspiration was comparatively easy, with but slight epigastric recession, yet this patient was both cyanotic and extremely restless Intubation restored the rhythm of the respiratory act with prompt relief of the cyanosis

The number of respirations per minute —This is important, as indicating the extent of involvement of the respiratory tract In laryngeal diphtheria my observation has been that the respirations are not greatly accelerated, whereas if there be involvement of the lesser tubes and air vesicles, we find both labored and rapid respirations This class of cases present the most unfavorable prognosis, not so much on account of the laryngeal stenosis as of the septic pneumonia complicating the case While in these cases intubation will relieve the labored respiratory act, it does not lessen the frequency of the respirations I believe, however, the operation is indicated, not only to relieve the stenosis, but to enable the child to cough more vigorously, and more effectually to clear out the lesser bronchial tubes In two cases where the symptoms were not extremely urgent there were attacks of dyspnea, due to spasm of the muscles of the larynx, presenting a typic picture of spasmodic croup Both became markedly cyanotic during the attack There was no evidence that this was due to particles of loosened membrane, and I am satisfied from the study of the cases that it was a spasmodic condition complicating the true croup This complication adds greatly to the suffering of the patient and the anxiety of the friends The history of such attacks, coming on at irregular intervals, in a case where the other symptoms are not extremely urgent in the interim, in my experience, demands intubation In the two cases of this type—while I do not affirm that they would have terminated fatally—I do say that, as the result of intubation, they recovered more comfortably

Extreme restlessness —This is an important symptom When a child is continually changing its position and tossing about from side to side, we may feel certain that it is in a dangerous condition While this symptom is usually associated with the other symptoms, especially that of epigastric recession, I have seen cases where this was by far the most prominent feature Indeed, in two cases, but for the restlessness, the patient would not have been thought in immediate danger I am satisfied this restlessness is due to a lack of oxygen, and is dangerous not only for this reason, but also because the patient rapidly wears itself out by its exertions When, therefore, extreme restlessness is a marked symptom, even if the other symptoms do not appear urgent, it demands intubation for its relief The relief given in these cases is usually very prompt

Cyanosis —When not due to a spasmodic condition or loosened membrane cyanosis is usually a late symptom, and a very serious one We sometimes notice this symptom where the others are not prominent, but as far as I have observed, it has been preceded by the other symptoms mentioned I am satisfied that many cases of this type are not cyanotic so much on account of the laryngeal stenosis as because of obstruction in the deeper portions of the respiratory tract, and I think this explains why it is that intubation often fails to give complete relief. The operation is indicated, however, to relieve the stenosis and to enable the child to cough and more effectually clear out the deeper portions

From this brief study I will draw the following conclusions The majority of cases recognized early are amenable to treatment by antitoxin A certain number, however, fail to respond to the remedy In these cases, if at the end of twenty-four hours a study of the symptoms leads us to the conclusion that the patient is not better, then intubation should be done In all cases presenting any one of the following symptoms prominently, namely deep epigastric recession with each inspiration, labored and prolonged expiration, extreme restlessness, spasmodic attacks coming on at intervals, or persistent cyanosis, then intubation should be performed I am satisfied that in our enthusiastic confidence in antitoxin, we often expect too much from the remedy, and that in cases seen late it would be wise to intubate and administer this remedy rather than give the remedy and wait for its effect Antitoxin and intubation are in no way antagonistic Intubation is the complement of antitoxin, to be used only where indicated, and when indicated it is generally a life-saving operation

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INTUBATIONS FOR DIPHTHERITIC CROUP

A REPORT OF THIRTY-EIGHT CONSECUTIVE CASES WITH THIRTY-SIX RECOVERIES ALL TREATED WITH ANTITOXIN

Presented to the Section on Diseases of Children at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY F E WAXHAM, M D
Professor of Diseases of the Chest and Laryngology Chicago Clinical School
CHICAGO ILL

Desiring to add my testimony to that of many regarding the value of one of the gr
of the century, I beg l to p

cases on record These cases were no less severe nor less dangerous than those operated upon before the days of antitoxin, and the great reduction in mortality can not be attributed to a milder type of the disease

June 30, 1895, through the courtesy of Dr L T Durbin, I was called to operate upon a boy of 3 years The tube was worn six days, being coughed out once, but returning dyspnea required its reintroduction Antitoxin used, bacteriologic examination positive, recovery slow, but complete

Sept 2, 1895 Dr Wm P Munn called upon me to intubate a child 2½ years old The patient was nearly dead from asphyxation Antitoxin given, tube ejected several times from exfoliation of membrane below the tube, bacteriologic examination positive, uneventful recovery

Oct 6, 1895, I was called by Dr A M Bucknum The patient was 2½ years old Antitoxin given, child greatly exhausted from difficult breathing, examination positive, good recovery, tube was worn five days

Oct 16, 1895 Dr J W Hawk called me to operate upon a boy 3 years old Patient greatly exhausted, removed tube on third day, but it became necessary to reintroduce it, The tube was permanently removed on the ninth day, examination positive, antitoxin used, good recovery

Oct 23, 1895 Courtesy of Dr David Thompson Patient 2 years old, very unfavorable case, nasal cavities, pharynx and larynx involved and the child nearly dead from asphyxia Antitoxin given and intubation performed, examination positive, tube worn five days, perfect recovery

Oct 23, 1895 Courtesy of Dr C B Richmond Patient 3 years old, pharyngeal and laryngeal diphtheria Antitoxin given, intubation performed, examination positive, tube worn five days; recovery

Aug 6, 1896 Courtesy of Dr Hugo Mager Examination positive, antitoxin, recovery, tube worn four days, age 6 years

Sept 13, 1896 Courtesy of Dr P V Carlin Examination positive, antitoxin, recovery, tube worn four days, age 16 months

Nov 8, 1896 Courtesy of Dr Charles Jaeger Examination positive, antitoxin, recovery, tube worn five days, age 4 years

Dec 2, 1896 Courtesy of Dr Catherine Hayden Examination positive, antitoxin, recovery, tube worn five days, age 2½ years

Dec 31, 1896 Courtesy of Dr George Packard Antitoxin, recovery, wore tube four days, age 3 years

Jan 12, 1897 Courtesy of Dr L E Lemen The patient had been sick with croup for three days before the doctor was called, membrane had already invaded the bronchi Intubation done at once and antitoxin given, examination positive Tracheotomy became necessary twenty four hours after intubation on account of membrane in lower trachea and larger bronchi Death occurred within twelve hours, from bronchial obstruction Age 4 years In the light of our present knowledge we should have given antitoxin in double the strength and repeated it more frequently

Jan 22, 1897 Courtesy of Dr Herrick Examination positive, antitoxin, recovery, tube worn two days, age 3 years

April 7, 1897 Courtesy of Dr P V Carlin Positive, antitoxin, recovery, age 2½ years, tube worn four days

Aug 14, 1897 Courtesy of Dr F E Warren Positive, antitoxin, recovery, age 4 years, tube worn five days

Sept 30, 1897 Courtesy of Dr H L Taylor Positive, antitoxin, recovery, age 4 years, tube worn five days

Oct 16, 1897 Courtesy of Dr D R Lucy Positive, antitoxin, recovery, age 2 years, wore tube six days

Oct 31, 1897 Courtesy of Dr P V Carlin Positive, antitoxin, death occurred from broncho pneumonia thirty six hours after the operation Age 16 months, surroundings very unfavorable people living in a shack of two rooms

Oct 31, 1897 Courtesy of Dr Von der Smith Positive antitoxin, recovery, expelled tube on the third day, age 1 years

Nov 7, 1897 Courtesy of Dr Leavitt Positive, antitoxin, recovery, wore tube five days, age 3 years

Nov 23, 1897 Courtesy of Drs H B Whitney and H C Snitcher Positive, antitoxin recovery, wore tube five days, ars

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Positive, antitoxin, recovery, wore tube seven days, age 5 years

Dec 13, 1897 Courtesy of Dr A K Worthington Positive, antitoxin, recovery, age 2½ years, wore tube six days

Dec 14, 1897 Courtesy of Dr H C Smitcher Positive, antitoxin, recovery, age 13 months, wore tube nine days This was the fourth case of diphtheria in the family, and the second one operated upon

Dec 21, 1897 Courtesy of Dr Frank Dulin Positive, antitoxin, recovery, age 6 years, wore tube five days

Dec 30, 1897 Courtesy of Dr C P Perry Positive, antitoxin, recovery, age 2 years, expelled tube on fifth day

Jan 1, 1898 Courtesy of Drs McLaughlin and Weaver Positive, antitoxin, recovery, expelled tube on fourth day, age 6 years

Jan 15, 1898 Courtesy of Dr J S Neva Positive, antitoxin, recovery, age 6 years, tube worn five days

Jan 31, 1898 Courtesy of Dr P V Carlin Positive, antitoxin, recovery, age 2½ years Tube removed on fifth day

Feb 3, 1898 Courtesy of Dr P V Carlin Positive, antitoxin, recovery, age 6 years, removed tube on fourth day

Feb 15, 1898 Courtesy of Dr P V Carlin Positive, antitoxin, recovery, age 8 years, removed tube on fourth day

Feb 20, 1898 Courtesy of Dr D R Lucy Positive, antitoxin, recovery, age 2 years, removed tube on sixth day

Mar 3, 1898 Courtesy of Dr I B Perkins Age 17 months, positive, antitoxin, five doses, each 1000 units, recovery, removed tube on fifth day

Apr 27, 1898 Courtesy of Dr T J Carlin Positive, antitoxin, recovery, removed tube on fifth day, age 2 years

May 11, 1898 Courtesy of Drs Ellsner and Gorsuch Positive, antitoxin, recovery, removed tube on fifth day, age 6 years

May 12, 1898 Courtesies of Drs Warren and Worthington Positive, recovery, removed tube on sixth day, age 2 years

May 24, 1898 Courtesy of Dr P V Carlin Positive, antitoxin, recovery, tube ejected two days after introduction, age 20 months

In this connection I would allude to an adult, 40 years of age, with diphtheritic croup, to whom I was called in consultation with Dr W E Shotwell The patient expelled a membranous cast of the trachea and recovered under repeated doses of antitoxin without an operation Recovery was formerly so very rare in the adult, that I believe this case is worth recording I should also call attention to a case to which I was called by Dr P V Carlin, March 1, 1898, and which has been excluded from this report, as the patient was moribund and died during the operation, and could not be resuscitated, although tracheotomy was also performed This is the only case that has been excluded

To recapitulate of the thirty eight cases operated upon, five were under 2 years of age with four recoveries, or 80 per cent, eleven were 2 years old, with eleven recoveries, or 100 per cent, six were 3 years old, with six recoveries, or 100 per cent, seven were 4 years old, with six recoveries, or 85 7 per cent, two were 5 years old, with two recoveries, or 100 per cent, six were 6 years old, with six recoveries, or 100 per cent, and one 8 years old, with one recovery, or 100 per cent, total, thirty-eight cases, with thirty-six recoveries, or 94 7 per cent—a mortality of only 5 3 per cent in a class of cases that formerly was dreaded above all others

A few years since it was my experience, out of several hundreds of operations to have saved 35 per cent Why this great reduction in mortality from 65 per cent to 5 3 per cent? There is but one answer It has been due to the use of antitoxin If my experience stood alone the conclusion might well be doubted, but inasmuch as the great reduction in mortality has been noted by all operators, it must be conceded to be correct In former years patients died, in the great majority of cases, after intubation or tracheotomy, from the extension of the diphtheritic exudate into the bronchi At present this rarely occurs I am fully convinced that when antitoxin is properly and energetically employed in full doses and repeated, the disease is at once cut short and no further progress occurs I am also convinced that if a patient dies after intubation from bronchial obstruction due to the presence of diphtheritic exudation, the remedy has either been used late, the extension having taken place before its administration, or it has been used with a hesitating hand and in insufficient dosage, or the preparation has been of uncertain strength When a child is taken ill with diphtheritic or membranous croup—which I consider identical—the danger is so great that hesitation in the heroic use of antitoxin is almost criminal I certainly should advise a full dose of 2000 units even for a child, and half the strength for infants, repeating the dose in twelve or sixteen hours In one of the cases reported, four doses of 1000 units were given an infant 13 months old, and in another 17 months old, five doses of 1000 units without any injurious effect

Even at this late day we occasionally meet with those who still cling to former methods of treatment, hoping to carry their patients through without subjecting them to the dangers (?) of antitoxin, and who are apparently afraid of the remedy and hesitate about repeating the dosage I would again and again repeat and emphasize the fact that antitoxin *must* be given early It *must* be given in full doses and repeated once, twice or thrice, if necessary My confidence in antitoxin is so great that I sincerely believe that with intubation, aided by the proper and free use of this remedy, death from diphtheritic croup should rarely occur

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DIPHTHERIA AS VIEWED BY THE GENERAL PRACTITIONER DURING THE LAST YEAR

Presented to the Section on Diseases of Children, at the Forty ninth Annual Meeting of the American Medical Association held at Denver Colo June 7-10 1898

BY ALEX McALISTER, M D

CAMDEN, N J

It is not my aim to present a learned dissertation either on the pathology or scientific treatment of diphtheria These subjects have been before the profession so constantly during the last three years that such a paper would prove only an intrusion upon your valuable time What I wish to do is simply to make a few practical observations that must be patent to every general practitioner Until recently diphtheria ranked as the gravest of the anginas and the most dreaded of the acute febrile affections This applies with especial emphasis to the laryngeal types, formerly largely regarded as a distinct disease, but now generally recognized as identical with diphtheria of the larynx and properly treated with heroic doses of antitoxin Yet the nasal and naso-pharyngeal types with their preponderance of constitutional manifestations and former frightful mortality were scarcely less dreaded both by the physician and parent

Recent advances in diagnosis and treatment, it seems to me, have left scarlet fever at the head of the anginas and typhoid at the head of the acute fevers in point of morbid possibilities Even the progress which has been made in diagnosis is to be credited to antitoxin, it being due to the new impulses contributed by serum therapy In the American Pediatric Society's report on the collective investigations of the antitoxin treatment of laryngeal diphtheria in private practice, this advance is admirably noted in the following words "In the early days of intubation it was customary to speak of the percentage of recoveries, and 24 to 27 per cent were considered good result In the last report the recoveries had crept up so high in the one hundred cases that it seemed more natural to speak of the percentage of mortality", and again, in speaking of O'Dwyer's personal experience prior to the introduction of antitoxin, in nearly five hundred operative cases of laryngeal diphtheria in which the mortality rate was 72 44 per cent "When he had reached the seventieth case on the fifth hundred something occurred which carried the phraseology up over the divide At this point in history, antitoxin arrived and interrupted forever the old series In his next fifty-nine cases the mortality was 23 7 per cent'

Recognizing that the past year was doubtless exceptional in many a section of our country for the small number of cases of diphtheria which appeared, it may nevertheless be observed that, incidentally with the more general introduction of serum therapy, we have a decrease in the number of cases as well as in the severity and popular dread of the disease and the rate of mortality This wholesome change is due to an ever broadening and deepening conception of both diphtheria and its *biologic antidote*, antitoxin

The resort to immunizing injections to prevent the spread of diphtheria to other members of the family where a case or two has appeared, is not so largely practiced as the value of the measure demands, but is rapidly gaining in popular favor But aside from any resort to this measure, it is evident that serum therapy has exerted a most potent influence in restricting the number of cases While it is always within the range of possibility for the most malignant case to follow the mildest case, yet the proneness to spread the infection is always greater in severe cases Admitting this, it is clear that whatever checks malignancy also controls the tendency to spread and materially restricts the number of cases that would otherwise occur This beneficent influence can never be adequately estimated, although it is very considerable One of the most encouraging experiences of many a general practitioner who has adopted the serum treatment of diphtheria, is that he now only occasionally meets more than the initial case or cases in a family Many of the latter class even assert that they never even meet the exceptional new infection

In view of all these facts, it would seem that the attitude of the general practitioner toward the serum treatment is a more seasonable subject for discussion than the merits of antitoxin In the investion of this most interesting subject the initiative was doubtless taken by Dr George L Cole of Los Angeles, Cal, who made a study of the question in his own State and reported, recently, in an admirable paper entitled "Sero therapy,' before his State Medical Society In reponse to a circular letter addressed to about three hundred physicians he received replies from 156 Of this number, only four expressed themselves as antagonistic to serum treatment, but none of these had personally tried the remedy nor had a desire to do so With the opportunity to compare the clinical notes of hundreds of physicians who have each treated many cases in private and hospital practice, of thousands of others who have less numbers, and with the unequivocal results of great collective investigations conducted both at home and abroad, it would seem that even the most obscure general practitioner is no longer justifiable in refusing to give his diphtheria patients the full benefit of the more humane and successful serum treatment According to my personal observations, this effect is rapidly being attained Physicians who were once loud in their opposition are now warm advocates, or in preference to the humiliation of a public retraction, have become secret users of antitoxin

Speaking of the product, as now freely available to every physician, it is to be observed that marvelous progress has been achieved I was one of the first in the East outside of our large cities to employ the remedy That was before antitoxin was prepared in Philadelphia for commercial or other purposes The article was then difficult to procure and very expensive The quantity of serum necessary to inject in order to secure what was then regarded a full curative dose was inordinate, being upward of one fluid ounce The syringe which I then employed has long since been laid aside as suggestive rather of minor rectal surgery The improvements which made it possible to inject much larger doses in very much smaller quantities of serum, that is to say, which gave us concentrated serums, are without parallel elsewhere in the pharmaceutic sciences

One year ago the most concentrated product in the market contained 500 immunizing units to each cubic centimeter of serum, but at present serums are available of 1000 and even 2000 units per cubic centimeter The latter, it seems to me, have reached a degree of concentration which is no longer advantageous or even practical A serum which contains nearly 150 immunizing units to each minim of the serum, or even half this strength, is relatively difficult to handle, owing to the small bulk and the unavoidable source of loss while it remains a question whether such high concentrations possess any special therapeutic advantages at all It seems to me, and in this I voice the sentiment of the general practitioners with whom it is my pleasure to exchange views from time to time, that a product permitting the administration of 1000 units of antitoxin in from 2 to 4 centimeters, i e, from one-half to one fluid dram of serum, if well ripened and conveniently bottled, is the ideal antitoxin from every point of view It is conceded that the more concentrated the product is the more readily deterioration takes place, so that the higher strengths are relatively unreliable after one to four months This in itself is a considerable disadvantage to the general practitioner, who, more often than any other class of physicians finds it indispensable to keep an available quantity of a strictly reliable product constantly upon his shelves To him there are a score of elements that enter into a particular antitoxic serum of vastly more importance than higher degrees of concentration, per se, however commendable as an achievement in its preparation the latter may be Chief among these elements I would name a high unit value, seasoning of the serum, a definite system of standardizing, convenient and sufficiently strong bottles and uniform potency

DISCUSSION OF DIPHTHERIA

Dr **Louis Fischer**, New York City—In the paper of Dr Engleman this morning I was interested in hearing that her results with the mixture of the antitoxin with anti strepto coccus serum were good I was very much interested recently to hear from some gentlemen discussing the subject, that they endorsed the view I maintained, namely, that antistreptococcus serum today can not be classed as a remedy to be used My experience dates back but two years, when I had the pleasure of seeing a series of cases under Dr Baginsky of Berlin We did not find it of value In one case, in which the antistreptococcus serum was used, the bad effects were due to its use Today we have not a streptococcus antitoxin, but only an antistreptococcus serum, which is not equally of value in all cases While doing good in erysipelas, it does not do good in cases of scarlet fever, although we have proven that the streptococcus is the etiologic factor in scarlet fever Therefore, I wish to reiterate what I said in New York, that I believe the time has not come when we may say that we are permitted to use the antistrepticoccus serum in the same sense that we use the antitoxin in diphtheria I would be pleased to hear if the various authors who have read today will state whether they have used this with the antitoxin, and their success

Dr Engleman stated that she fully believed the etiology to be still in a confused state Mr Chairman, I can only tell you of a very interesting case of a child who had an affection of the throat and showed the Klebs Loffler bacillus A child brought into the hospital for the relief of a phimosis, was operated upon and some of the smegma inoculated in a test tube When placed under the microscope beside a culture obtained from a case of diphtheria, a friend of mine, who is a bacteriologist, was absolutely unable to differentiate them When in Berlin I saw the streptococcus and staphylococcus in a great many cases While the accepted theory is that the Klebs Loffler bacillus is the sole cause of diphtheria, and that it can produce diphtheria, I think there is still room for improvement in the study of the etiology of diphtheria I learned from another bacteriologist, who said he knew of the bacillus of smegma, that is similar to the diphtheria bacillus I need only say a word of the pseudo diphtheria bacillus which is frequently present under normal conditions

Passing to Dr Jerowitz' paper, the gentleman referred to the fact that he does not use iron I was rather surprised to hear that statement, because I regard iron as one of the most important drugs in the treatment of diphtheria While the accepted conclusions in regard to antitoxin are so positive, I believe iron still holds its own as a remedy in diphtheria The treatment of diphtheria was in such a condition of chaos four or five years ago, in regard to this antitoxin question, that I believe we are to be congratulated on the progress made in this line, and I believe it is due largely to some men who have gone throughout the country and advocated the use of antitoxin Largely it is due to such work as that of Dr Rosenthal I will state, however, that I do not use antitoxin in every case It was only about two months ago that Dr Garrigues telephoned me to bring enough antitoxin for four cases But I found only some little spots, which by a little gargling got well I know another case in which by using a little wash the child recovered I do not use the antitoxin unless there is no improvement in twelve hours However, if I am called to a case in which a whole tonsil or the palate is involved or when there is stenosis, I would regard it as criminal not to use antitoxin I never give under two thousand units of antitoxin in any case

The paper of Dr Waxham is a valuable contribution The statistics are such that it would be a crime not to use antitoxin where there is laryngeal involvement The Doctor has shown the old tubes of O'Dwyer We have had the rubber tubes introduced, I believe I showed some of the tubes last year at the meeting of this Section in Philadelphia, and we have been using them since The lime salts do not deposit on them, which is of value especially in the cases where we must use the tubes for a long time In the case of a child I intubated on February 20, I am confident if I had used a metal tube I would have had to use a series of tubes by this time, but the rubber does not permit the deposit of lime salts on the surface Dr O'Dwyer's new sets have also these new tubes and they are made according to his own directions The tubes I use are made corrugated, because I find them so slippery that they are coughed out if we do not have them corrugated The gag of Dr Waxham I have used and I believe it is an excellent gag I should like to ask Dr Waxham how he treats his prolonged cases of stenosis Some cases were reported by Dr O'Dwyer at the last meeting of the Pediatric Society I refer to the class of cases where you have intubated and left the tube in for a week or ten days, removed the tube and have stenosis, and must they have prolonged intubation? I have mentioned a case where the child has worn the tube over three months I have tried tracheotomy in several of those cases and I have found that each and every one of them has died

Dr Ross ENGLEMAN, Chicago, in closing —I have nothing to say, except to emphasize the subject of polymorphism of the Loffler bacillus As the Doctor says, I think the subject is still in an experimental state I do not think we can say certain symptoms refer to the staphylococcus or streptococcus or Loffler bacillus infection, because of this polymorphism, and we often do not get anything except a mixed infection In my series of cases I did not use the antistreptococcus serum in sufficient doses, so I would not express an opinion as to its use in these cases As to the question of the prolonged intubation, I am very glad to hear from Dr Fisher of the use of the rubber tubes I have had a few cases that were very troublesome and shortly after I had those cases I read O'Dwyer's article, I think in the July number of the *Archives of Pediatrics*, in which he referred to the use of alum and paraffin, which seemed very ingenious and with which he said he cured his ulcers in a short time where the tube had been worn three months or longer

Dr JAQUES, Chicago —I had charge of the South Side Dispensary in Chicago at the time Dr Waxham was beginning his career as an intubator and I have called him out, in the most bitter and disagreeable weather, and he never has failed to respond to perform intubation In nine out of ten of those cases death followed When I recall the experience he went through I am glad no such experience will be possible for the next generation We should have in mind always the fact that it takes two things to make a case of diphtheria First, the predisposition to the disease, second, the presence of the germs I have frequently obtained cultures of the Klebs Loffler bacillus from my mouth, although I have never had diphtheria in my life In any individual not susceptible to diphtheria, there is, through the action of the cells, an antitoxin produced which protects the individual from the action of the germs When the individual loses this condition of resistance or it falls below a certain standard and the Klebs Loffler bacillus is introduced on the membrane, Klebs Loffler diphtheria will follow and will progress according to the susceptibility of the individual Unless you have the clinical symptoms following the finding of the germ, you do not have diphtheria Dr Waxham, in his paper, stated that he always gave at least two thousand units to a child and more to an adult If you will pardon me for a moment, I wish to illustrate the stand I have taken, that the younger the child the larger the dose of antitoxin should be, not in the amount of serum but in units We understand that the growth of the bacilli produces the ptomains In the experiments we estimate the amount of toxin which kills the animal by the size of the animal, and the smaller the animal the smaller the amount of toxin required to produce the animal's death The growth of bacilli here is as large in the infant as in the adult, and therefore a larger amount of antitoxin is required I use three or four thousand units in infants I want you to beware of the concentrated antitoxin A drop will stay in the syringe, a drop will be lost, probably, in seeing that you do not inject any air "I prefer the antitoxin of average concentration, say 5 cc to three or four thousand units One of the gentlemen who read a paper said he did not think antitoxin is a preventive of paralysis I do think the gentleman has carefully considered that statement You might as well say that water does not prevent the spread of fire Antitoxin does prevent paralysis The toxin produced by the Klebs Loffler bacillus causes necrosis, and when that ptomain accumulates to a sufficient amount to produce destruction of the corpuscles of the blood, the kidney tubules and the destruction of the vital centers, the patient will die So if you give your antitoxin it must be given before this destruction occurs and then you will prevent paralysis

Question —I would like to know how long they quarantine patients to prevent the spread of the disease

Dr JAQUES—In the Health Department of Chicago we do not placard any house unless the Klebs Loffler bacillus is found in the case and the diagnosis is made by one of the inspectors in the health department We have not followed the quarantine very carefully for the reason we work there in harmony with the physicians We are simply the assistants of the physician We say to the doctor, you go to your patient, take with you a little culture material, give it to us after inoculation and it will be returned to you as your private property The patients do not know in one fifth of the cases that the health department had anything to do with the case The physician is responsible for the spread of the infection, and he looks after it then very much better then the health department could do As a result our diphtheria statistics, as perhaps you know, have been remarkably low, being in the charity cases only 6 7, when formerly they were nearly 40

Question—How long do you keep the house placarded?

Dr JAQUES—We leave that to the discretion of the Doctor Often it does not stay on the house over an hour and often it remains on the house for a long time The patient is at once isolated, and if the patient is isolated and put in the care of a trained nurse, the individuals in the house are in no more danger than an individual in an ordinary street car If the physician desires to take the responsibility of the case, the placard need not go on the house at all Every doctor knows that when he calls on the health department he will not be interferred with in any way If the patient is so poor that antitoxin can not be bought, it will be furnished them by the health department without cost

Question—I would like to ask the physician from Chicago, if when he found the Klebs Loffler bacillus in his throat, and thought he was not subject to diphtheria, did he not think he was a menace to other persons, who were debilitated?

Dr JAQUES—I think the only time I would be a menace would be when kissing, and I am not subject to that habit When I found this bacillus in my throat, I was very careful to take means, by gargling, to keep my throat from being a subject of infection I have gone from a case of intubation to a case of confinement and performed version and do not know that I ever transmitted diphtheria There is a great mistake in the belief among the general public as to the contractibility of the disease and the danger of physicians If they are clean, there is very little danger of contagion Contagion is spread only by contact and not at all through the air

Question—Do you ever fumigate the premises after a case of diphtheria?

Dr JAQUES—We have spent several thousand dollars in the last year in the practical methods of fumigation, and we have found formaldehyde gas one of the most practical methods It is clean, leaves no odor and is one of the simplest and best methods We simply take formalin, or the 40 per cent. solution of formaldehyde gas, add four parts of water, stop up the cracks in the room, extend a sheet across the room and throw the solution on the sheet. We then get out of the room as quickly as possible The disinfection is perfect We place tubes, wrapped in flannel, in various places in the room and if any of them grow, the disinfection is repeated This does away with the use of sulphur and we find it by far the best method of disinfection

Dr AGNEW, Philadelphia—I think Chicago does better than Philadelphia In the first place, we have a hard and fast law that all cases have to be placarded When the culture is made the house is placarded and the placard is removed when disinfection is attended to I believe one of the causes of spread of the disease is the non report of cases of diphtheria, due to the fact that the placard interferes with people's business I think, myself, there ought to be discrimination and where the physician in charge is willing to assume the responsibility of isolation, the placard should not be on But the act of 1895 states that a placard shall be put on, and the Board of Health of Philadelphia, who have the discretion in this, have insisted on this placard being put on every house One of our most distinguished physicians in Philadelphia unfortunately had a case in his house, that I am satisfied everything was done to isolate, but in that case the placard was put on his house I believe cases of diphtheria can be so taken care of that the risk to other people will be reduced to the minimum, probably reduced to nothing It would be interesting to know whether in Chicago they use force to remove patients, where the doctor does not assume control of the case We have to deal with a population in my city where no isolation is used and we are allowed to send a force in and take the patient out You will all admit that under such conditions a case taken to our municipal hospital removes the center of contagion There is no question, when such a case is removed, that a benefit is conferred upon the city I know, myself, of a case which was not reported, that was visited by children invited from a kindergarten and several lives were lost and several children were sick for a long time I believe at least a hundred cases were kept out from the epidemic traced to this case The case was not reported and the doctor was brought into court and fined $5 for I don't know how many lives and how many cases of diphtheria

Dr W H SEIBERT, Pennsylvania—We have had the pathology, symptomatology, treatment, preventive measures, and even down to the police regulations, but one point has not been mentioned I refer to diphtheria occurring in regions not accessible to view, as in the alimentary canal or possibly in the posterior nares, where, however, it might be seen by proper instruments, and in other regions The Doctor has stated that he has gone from intubation cases to obstetric cases without danger Recently, I had some experience where a consultant, who had been treating malignant cases of diphtheria, was called to help in a case I asked him to examine the case, which he did He did not speak of his diphtheria case until the after course of our case of *obstetrics* There were peculiar symptoms appeared In fact, there were the general symptoms of diphtheria, but there were no symptoms of diphtheria about the throat The main symptom was complete anorexia, absolute repugnance of food That has not been referred to but is usually understood On examining everywhere, carefully, I could find *nothing to* indicate diphtheria until with the speculum I examined the vagina *On* the fifth or sixth day we found a diphtheritic patch inside of the vagina, which was nearly an inch in diameter The case occurred before the introduction of antitoxin, and the patient went on and died from diphtheria A few years ago, J Lewis Smith reported a case which died *from* what he had treated for some time for typhoid fever, but before death the patient passed a complete cast of the intestine, which *proved to be* diphtheritic on examination

Dr WELCH of Philadelphia [illegible] I fin[illegible] in t[illegible] enemy's camp That is to [illegible] no [illegible] have seen diphtheria, having had charge of a hospital where infectious diseases are constantly treated, for the past twenty eight years, and during the past six or eight years we have been receiving large numbers of cases of diphtheria, along with scarlet fever and some few of the other infectious diseases The death rate in our hospital before the days of antitoxin was never anything like as high as has been stated here by some of the speakers today Our death rate before antitoxin was from 28 per cent to 30 per cent, or along there somewhere as near as I can recollect now And, gentlemen, it remains there today We have not reduced the death rate whatever It is true in 1894 the death rate was higher than ever, it was high all over the world That is known by all who followed the literature of the period The death rate in our hospital was about 30 or 33 per cent It was about the same in the Willard Parker Hospital of New York, and in the Metropolitan Hospital However, in some of the hospitals the death rate has been very high, as high as stated here today After antitoxin came to our notice in 1894, we did our best to procure this agent, that our patients might have the benefit of it We succeeded in the fall of that year and were able to give it to only sixteen cases, I think, in the latter part of 1894 We watched those cases with a great deal of interest Their temperatures were taken every hour or two, notes made every little while, and we had complete histories reported of the first five cases They were pretty nearly the first cases in which antitoxin was used in Philadelphia Dr Fischer, who is present, knows something of those five cases, two of them died

We continued, and that year used antitoxin in about sixteen cases, but it was not lower than the usual death rate In 1895 it was not so difficult to procure antitoxin The preparation of the antitoxin we used then was Behring's number two It was not, of course, as easily and readily obtained in as large quantities as at present, it was high, and we economized its use as much as possible I attempted to select the cases which I thought most favorable to the action of the antitoxin Everybody who had written on the subject said antitoxin was useful only when used in the early stages of diphtheria I selected those that were from the first to the fourth day of the disease, well marked clinical casses, some of them very severe and others not so severe, but every one of them well marked and in every one of them the Loffler bacillus was present on culture Those which did not receive antitoxin were, first, exceedingly mild cases, which I believed would recover without any remedy, second, cases advanced beyond the fourth day, and third, malignant or moribund cases It was thought they would serve no fair test of the remedy At the end of the year in counting up the cases there were about three hundred received antitoxin and over five hundred did not receive it The cases were not analogous and could not be compared But the death rate among those from the first to the fourth day who received antitoxin was about 28 14 per cent, while among the other class it was 25 per cent and a fraction, I think very nearly 26 per cent Now, I do not say that these series of cases should be compared, for they are entirely different, as I have told you I was surprised that the death rate should be so high In closely watching these cases after the administration of antitoxin, particularly my early cases, no one can well imagine my disappointment I really expected antitoxin to do all they claimed for it It did not Now, I have no prejudice, I wish antitoxin would do what they have said it would I thought I would get out of writing so many death certificates, but the patients have died just the same In watching the cases I could not see such a beneficial effect from it Sometimes we thought we did see the change in the exudate, that it assumed a more fat-like appearance and peeled off more readily But right along the side of them you could pick out the same number that did not receive the antitoxin but behaved in the same way I can not say that I have observed that the exudate disappears more quickly after the use of antitoxin If there is any difference it is not striking There are some cases where it peels off quickly, there are other cases where it remains for a long time, there are cases where it disappears and reappears, and there are cases where it travels even down into the larynx A good deal was said about the temperature Temperature in diphtheria counts for very little, except in the worst cases it is usually low In the vast majority of cases the temperature is high at first, but in a short time it sinks to normal, or nearly so, and in bad cases to below normal In the hospital you will see very few cases with high temperature, except in cases of broncho pneumonia This is very common and many of the intubated laryngeal cases die from it Many of them die late, some die two or three weeks after they have been admitted into the hospital A week or two after the tube has been removed bronchial pneumonia develops and they die We all know the theory by which antitoxin acts, the theory of immunity, that in a person who has suffered from some one of the infectious diseases there is an antitoxin produced in the blood and that this antitoxin protects them against future attacks This is a beautiful theory, but it seems to me it is not proved No one has ever discovered antitoxin, described it or told us anything about it Now, what does nature show us? What do we find in practice in our daily observations? Take, for instance, a woman who is rendered immune to smallpox, which is a common disease and one of the most contagious and infectious diseases we have Take a person immune to smallpox, either by reason of vaccination or previous attack, say the individual is a female and there is an antitoxin developed in her blood which protects her That woman becomes pregnant and gives birth to a child That child, it seems to me, should receive immunity from its mother Yet that child, from the time of its birth, is susceptible to the disease The woman may not be affected by a disease to which she is immune, but the fetus in utero may be susceptible If it will protect her, why will it not protect the fetus in utero?

Dr R B **Gilbert**, Louisville —My experience has been so much in common with that of Dr Fischer that I regret the last speaker I have treated cases without the serum and have had a mortality of 65 or 70 per cent, and with the antitoxin I have had a mortality of from 7 to 10 per cent The cases were in the same epidemic with the same environment and proper attention I believe antitoxin should be used early and in the quantities stated by Dr Fischer In a case of laryngeal diphtheria in a child under two years of age it is scarcely worth while to use the serum late But if we see such a case early we might have quite a success with it My experience has been only in general practice through a number of epidemics and not in hospital practice I have succeeded in saving a large number of cases, which I know would have died had I not used the serum

Dr **Simmons** of Nebraska —I am sure antitoxin is as nearly a specific for diphtheria as any medicine we have for any other disease I do not believe quinin is as much a specific for malaria as antitoxin is for diphtheria In the early years of my practice I ran into a lot of diphtheria, in which all the physicians lost nearly all of their cases Nothing could save them Twice in my medical experience since then, once about eight years ago and once about six years ago, I had the same class of cases During the intervening periods we had a class of cases that were mild I have been anxiously waiting with a good deal of fear for a chance to try antitoxin in the old type of diphtheria About two months ago I had such a chance Until then I was ready to say that I thought what I had read was all right, for I had used it for some years, but during the last two months I have had such experience that I do not care what statistics are brought up nor what anybody else may say, I know I have saved cases with antitoxin I will just relate two instances in two families One was a family of nine children They were poor people and did not send for me or any physician until one of them was practically dead Another case was in bed when I got there The glands of the neck were all swollen The mouth and the fauces as far as I could see were covered with membrane In a bed in the same room were two other girls, and from a room above there were two boys coming down In one of the cases there was evidence that it was going to be a very severe case I did not use any antitoxin in the worst case because it was too far gone To the others I gave antitoxin and I saw an immediate good effect At the first sign of the membrane in the children not yet affected I gave immunizing doses of 500 units and they all got well If you could have seen the cases with me, you would have believed as I do that those cases were saved by antitoxin Across the street there was a brother in law who called a physician who is a bitter opponent of antitoxin He did not use it and he succeeded in saving one of the four children In one family the Christian Scientists created quite a rumpus but nothing was done to them In that epidemic there was not a case died in which antitoxin was used and nearly all the other cases died Therefore I feel like saying what I said two or three weeks ago in our local society, that I believe today a man is criminally negligent of his duty who fails to give antitoxin in diphtheria

Dr John A Lockard—From my experience as interne in the New York Hospital, I wish to emphasize what has been said about the mortality In six months' experience there I have failed to see the membrane melt away any quicker with the antitoxin than without it I have failed to see the so called "black" diphtheria get well under the antitoxin treatment In one class of cases I saw a good result, and that was in the cases intubated In its effect on postdiphtheritic paralysis I have seen no results you could call good I have seen cases of heart failure with regurgitation just as marked and frequent As to the antistreptococcus serum, we found that most of the incubated cases died from subsequent pneumonias We took the cases with no physical signs of bronchitis on admission and injected the antistreptococcus serum, 2 c c every day Out of the six cases we lost five We found the rashes most confusing The rashes of this and scarlet fever were so much alike that barring the throat symptoms they would be very confusing I think, however, the statistics from the hospital are likely to lead us astray, especially in certain directions Usually the cases sent in are old cases The children have parents who are not particularly careful in observing the children and they do not recognize the disease until it is pretty well advanced Another way in which the statistics may err is that we admit many cases as diphtheria which upon bacteriologic examination would be called a mere tonsillitis In the children we do not have an opportunity to observe the melting of the membrane as well as in the adults, because we were required to give antitoxin to all the children But in adults it was optional, and we occasionally advised them not to take the antitoxin that we might observe the cases Side by side, cases as near alike clinically as we could possibly get them, I have seen the membrane melt away without the antitoxin and others who had antitoxin remained in the hospital weeks longer Another peculiar and significant fact, it seems to me, is that when our nurses become affected with diphtheria they do not use the antitoxin, and the same was true when my predecessor and successor had diphtheria

Dr H D Jerowitz, Kansas City, in closing—In respect to intubation, I might have had a great many more cases in my practice if I had been permitted to perform intubation when I wanted to, but as the majority of the cases were among ignorant people, they were very much afraid of mechanical treatment Many of these cases presented cyanosis, upon whom I wanted to intubate, and the majority got well just the same The difficult breathing seemed to be only transient It shows the fact that a great many cases that seem to require intubation or tracheotomy at the moment you see them, may have the spell pass off in a few momints and the case for the time being will be better Very often when these cases present urgent symptoms, the cyanosis and dyspnea are due not to the membrane, but more to the mucus, which may not be brought up a certain moment, and if an emetic is administered, or the child has a severe spell of coughing or crying, the urgent symptoms pass off and the necessity of intubation or tracheotomy is obviated As to the use of iron, we all have our own opinions, which are based upon our own experience I used iron in the early part of my practice, but I never could see the rationality of it, nor could I see why it cures these cases Besides, my experience is that the cases that can be benefited by iron, can just as well get well with other treatment I can not see what such an irritating remedy as the perchlorid of iron can accomplish in such a disease as diphtheria It seems to be a very irritating drug, not only constringing the membrane of the throat, but of the stomach and bowels as well, thereby interfering with assimilation I think the value of it is more from the chlorin, and for that reason I often use hydrochloric acid internally, expecting also an effect from it as it passes the throat As to the antitoxin, the dose must be large Two thousand units may be employed three times a day in laryngeal diphtheria One gentleman referred to the fact the statement was made that antitoxin does not prevent paralysis My paper did not say so I said paralysis occurred in those cases that were either severe cases or cases of long duration Those cases in which there was extension of the membrane or which lasted ten or fourteen days, were as a rule followed by paralysis Then I further stated that in all cases where the antitoxin is used early, the membrane disappears in two or three days and it shortens the sickness, and from this fact it prevents paralysis I stated that if the antitoxin was used early, no paralysis is found Now, as to the spread of diphtheria and the placarding, it is very evident that there are a number of mild cases that do not go to bed and are not recognized, and children having a very mild form of diphtheria, that are hardly sick except possibly a slight headache, may go to school and spread the infection to others

Dr F E Waxham, Denver, in closing—In regard to the paper presented by Dr McClanahan, I would agree entirely with his conclusions, so briefly and explicitly set forth In regard to the paper presented by the first essayist, I would say that on account of my confidence in antitoxin I have discarded all gargles, sprays, iron, and other remedies I simply give a large dose of antitoxin, repeat it in ten or twelve hours, and give a third or fourth dose, if necessary Antitoxin has been compared to vaccination I think that is not proper at all The vaccine disease is another disease, it is a disease, smallpox, modified by passing through the system of a cow There is simply no comparison between antitoxin and vaccination In regard to the health department, I was very much interested in the methods employed in Chicago They are quite different from the methods employed here Here the physician inoculates a test tube and takes it to the health department, if it is found to be diphtheria, the health department takes entire charge of the case They isolate the case, and make repeated examinations of the patient's throat As long as the case shows any bacilli in the throat, the case is isolated and the house placarded If Dr Jaques lived in Denver, he would not have the temerity to have the secretions of his throat examined I am much surprised that any one at this day, can oppose the use of antitoxin I can not understand how any one, after reading the conclusions of the Pediatric Society, can fail to be convinced of the utility of antitoxin After my experience in the treatment of diphtheria, I would feel that I was not doing my duty as a physician, not doing my duty to my profession, unless I [illegible] the use of antitoxin as the greatest remedy that has been presented to the medical profession during this century I can not but believe there must be something wrong in the methods employed by those who have found so little benefit from its use They either have not used the remedy early, or have not used the remedy in sufficient doses, or have not repeated it when necessary I suspect the cases that have come under Dr Welch's care are late cases, for frequently we know cases are sick three or four days before they are taken to a hospital Then, if a bacteriologic examination is made before treatment is begun, another twenty-four hours is lost I feel like agreeing with one of the speakers when he says that he would feel guilty of criminal negligence if a case died under his care and he did not use antitoxin

Dr H M McCLANAHAN, Omaha—I only wish to bear testimony that I believe most thoroughly in the use of antitoxin I believe, however, we must not expect everything from this remedy I believe the statement by Dr Welch, that antitoxin can not undo the harm diphtheria has done, is true I think the cases crowded together in the hospital will not do as well But I think his line of argument should not give us reason to not use the remedy in private practice In the cases mentioned by Dr Welch, I have no doubt he found mixed infection, over which antitoxin has no influence I think we should get a clear idea of what this remedy should be expected to do, and what it should not be expected to do I became thoroughly disheartened and discouraged with antitoxin The patients would be relieved a few hours, and then the patch would extend on down After the use of antitoxin in the past year I have intubated *only twelve cases, and eleven of them* have recovered I can go back five years, when the patients under tracheotomy or any other treatment that we had, gave a mortality of 50 or 75 per cent It would be a retrograde step if we were to allow ourselves to lose our faith in the use of antitoxin. But we should not expect it to do everything When your examination shows that you are dealing with a mixed infection, then let us not stop with the use of antoxin Then I believe nascent oxygen is of benefit Even some of those cases can be saved by the use of nascent oxygen, with antitoxin In one case I saved a child in this way when the lips were blue It leads me to believe I will never give up a case of diphtheria until the case is cold and stiff and dead I have the most profound belief in the value of antitoxin in neutralizing the toxins of diphtheria

THE EARLY DIAGNOSIS OF DIPHTHERIA

Read before the Mississippi Valley Medical Association, Oct 13 1898

BY WILLIAM K JAQUES, M D

DIRECTOR ANTITOXIN STAFF HEALTH DEPARTMENT CITY OF CHICAGO

Outside of laryngeal complications, the mortality in diphtheria is due to the toxin produced by the Klebs Loeffler bacilli No physician can successfully treat diphtheria unless he understands the nature of this toxin, how it is produced, and how the cells may *be fortified against its destructive action He must* understand that the Klebs-Loeffler bacillus is a distinct living entity or vegetable organism, that one of the products of its existence is diphtheria toxin, just as the result of the life of the yeast plant in alcohol

Other germs in anginas will cause inflammation, pain, temperature and membrane, but only the Klebs-Loeffler bacilli produce the deadly toxin which begins with their invasion and progresses to a fatal amount as swiftly as conditions permit

To appreciate the danger of his patient, a physician must understand the rapidity with which these bacilli multiply under favorable conditions The clinical symptoms manifesting their residence may give no indication as to the rapidity with which the fatal amount of toxin is being produced The best means of comprehending this fact is to use the microscope and follow the multiplication of the Klebs-Loeffler bacilli in their cultural life Inoculate a box of culture-medium with infected mucus and place in an incubator at body temperature At the end of three hours, a cover-glass pressed upon the surface, properly stained and mounted, will show sufficient bacilli, if they are present, to give an idea of the number and arrangement of germs upon the surface of the medium Incubate the same culture eight hours, and an examination will show that the germs have multiplied many times Eighteen hours will reveal a large and complete colonization, from which an idea can be gained of the way in which the Klebs-Loeffler bacilli multiply under favorable conditions Understanding, as we do, that toxin is a product of these germs, their multiplication means an increased amount of toxin, which soon reaches the fatal point unless checked by the use of antitoxin This demonstrates the importance of a physician knowing at the earliest possible moment what germs are present in an angina It may be said that in the majority of cases there are two things he does not know the extent of the infected area, and the resisting power of the patient

The diagnosis of diphtheria in the early stage of the disease must be made from both clinical and bac*terial evidence From his patient the physician finds* clinical manifestations of an invasion of the mucous membrane of the respiratory tract When his microscope reveals the germs that are causing this invasion, he can then say whether or not the disease is diphtheria Delay in ascertaining this information can only be done at great risk to the patient's life and the doctor's reputation

In order to ascertain the value of direct diagnosis, —by which we mean the examination of material taken directly from the infected area without waiting for incubation—the Chicago Health Department has introduced the following culture outfit for the use of physicians, a sterilized swab is placed in a glass tube, a slide carefully wrapped in paper is placed with this in an envelope together with a culture box and directions for using same Physicians are requested to inoculate the swab from the inflamed site, spread a little of the mucus upon the slide and allow it to dry The culture medium is inoculated from the same swab and it is returned to the glass tube The whole outfit is then to to be sent to the nearest incubator station or laboratory

As this method has been in use but a short time, its value has as yet to be demonstrated conclusively From my own experience I have received very valua*ble information In one case I did not find any Klebs-*Loeffler bacilli in the culture medium but found that a large colony of the bacilli had incubated upon the mucus which was still left upon the swab In a number of cases I have been able to make a direct diagnosis by staining and examining the slides as soon as they come to the laboratory When no antiseptic treatment has been administered before the culture is taken, and the disease manifests malignancy, by stupor, hoarseness or swelling of the cervical glands, it has been possible in about 50 per cent of the cases to find sufficient bacilli to warrant a diagnosis of diphtheria, sometimes before any trace of membrane is visible When it has been possible to get a small portion of membrane to spread on the slide, there has been no difficulty whatever in about 75 per cent of the cases in making a direct diagnosis

Cases in which the Klebs-Loeffler bacilli can not be found by direct examination will lose very little by waiting for incubation of the culture

A bacteriologist can not be sure that his examination reveals the true condition of a case unless he knows the material was correctly obtained In a laryngeal case, mucus from the mouth may not have become infected sufficiently to show the bacilli present This may also be true with an invasion of the cervical glands, but if a piece of membrane is obtained from the tonsils and found not to contain the Klebs-Loeffler bacilli, the probabilities are that it is not diphtheria

In large cities, where examinations are made by the bacteriologists of health departments, a physician may perhaps be pardoned for not acquainting himself with the technique of examinations At the same time, the more a physician knows about the bacteriology of diphtheria, the more accurate will be the results from the perfectly taken cultures which he sends to the laboratory One of the greatest disadvantages we have to labor under is the faulty manner of making cultures by physicians who know nothing of bacteriology Even if the culture is recognized as imperfect before incubation, it means at least a few hours' delay in securing another

Because of the contagious nature of diphtheria, the health departments of large cities have been making bacterial examinations for physicians, and the success of the work in controlling and limiting the disease, as well as its statistical value, has justified the expense As long as there was no specific for diphtheria, the diagnosis was not of such vital importance Physicians could prescribe local treatment and await developments Now that we have a remedy which, when properly used, may truly be called a specific, and when the life of the patient depends upon an accurate diagnosis, the responsibility of the attending physician is very great

In the malignant form of diphtheria nearly 50 per cent of the cases die unless proper treatment is administered Any physician who neglects to make a correct diagnosis during the time when the remedy is efficacious—that is during the first two or three days —is responsible for the result He is responsible because it is within his means to obtain the knowledge which will make him competent to treat the disease intelligently, and therefore successfully He is also further responsible in permitting the continuance of infection to endanger the safety of the community The technique of the bacterial diagnosis is simple The entire outfit for this work may be obtained for less than one hundred dollars The essentials may be acquired at home by any physician who is willing to devote no more than his leisure moments to it

The users of antitoxin everywhere emphasize the importance of its early administration In a paper by Dr Edwin Rosenthal of Philadelphia read at the meeting of the American Medical Association in Denver, he gave a statistical record of sixty cases in which he administered antitoxin, with nine deaths The recoveries are not more instructive than the deaths, in all of which the record shows antitoxin to have been administered from the third to the ninth day The child who received the antitoxin on the third day died of bronchial pneumonia The other cases, all being in an advanced stage, illustrate in a forcible manner that antitoxin had not been given until after the destructive action of the toxin, against which no remedy is proof

To demonstrate the protective value of antitoxin, the following experiment has been conducted On October 10, in the presence of Dr F W Reilly, assistant health commissioner of Chicago, Dr Wynekoop, assistant bacteriologist, and myself, Dr Adolph Gehrmann, city bacteriologist of Chicago, injected nine guinea pigs with four times fatal doses of diphtheria toxin The first three were immunized two days previously by the injection of 1 c c each of Parke, Davis & Co 's antitoxin The next three received 2 c c of the same antitoxin each, following the injection of toxin The third three have had no treatment whatever since the injection of the toxin The pigs are here, and are correctly labeled as to condition, which presents decided effects on this, the fourth day All pigs that received antitoxin are alive and apparently well Of the three not protected, two are dead The third, being still alive, would indicate the possession of natural immunity against the toxin

From my connection with the Chicago Health Department, four years ago, to the present time, our efforts have been directed toward obtaining an early diagnosis in all anginas, and supplying a reliable grade of antitoxin The best methods of work have been studied and established, with a view to assisting physicians by furnishing such facilities for the diagnosis and care of contagious diseases as they might not have themselves As a result, our department corps of inspectors are doing harmonious work and our success in controlling diphtheria is demonstrated by the decrease in mortality from 38 per cent, not including laryngeal cases, to 6 7 per cent, including all forms of the disease During the month of September, the department treated 108 charity cases, 66 of which were bacterially verified as true diphtheria, with three deaths Two of these cases were in the last stages of toxin poisoning when the inspector was called It has become possible by improved methods to give a physician a diagnosis within an hour from the time he makes his first call, if a direct examination can be made, if not, he receives his answer in from six to ten hours from the time the specimen is received

It is fair to assume that our remarkable success in controlling and limiting diphtheria is due to the methods employed, the most important rule of which is, *first and always secure an early diagnosis then lose no time in applying the remedy*

SOCIETY PROCEEDINGS

Mississippi Valley Medical Association

Twenty fourth Annual Meeting, held at Nashville, Tenn, Oct 11-16, 1898

First Day—Morning Session

The association met in the hall of the House of Representatives at the State Capitol, and was called to order by Dr Duncan Eve, chairman of the committee of arrangements Prayer was offered by Rev James I Vance D D Addresses of welcome were delivered by Hon J M Head, on behalf of the city and State, and Dr C S Briggs, on behalf of the profession of Nashville

Dr John Young Brown of St Louis delivered the President's Address, after the reports of the secretary and the treasurer had been read and accepted He selected for his subject, "The Mississippi Valley Medical Association" and dealt with the history of the association, saying that it was organized twenty four years ago Its rapid growth is due to the loyalty of its members and to the fact that from its inception it has been a distinctively working body, it has never been a mutual admiration society He gave suggestions for its improvement, and said that inasmuch as the association contemplated the publication of an annual volume of Transactions, he would suggest that the dues be *raised from $3 to $5*

Dr **Charles T McClintock** of Detroit, Mich, read the first paper, which was entitled

IMMUNITY

Of late years a large part of the laboratory work in medicine has had to do with immunity Many facts have been discovered, in a few instances these have been of immediate practical value in the treatment or prevention of disease But for the most part these facts are uncorroborated, often contradictory, their meaning not clear Hypotheses have been advanced, but as yet we have no theory that will even approximately explain the facts of immunity The future of work in this line is full of promise For the infectious disease at least, immunity and cure are one and the same A diphtheria patient will be cured only when his tissues are immunized against the attack of the diphtheria poison There are several kinds and various degrees of immunity We have a natural and an artificial or acquired immunity, apparently these are entirely different in kind, dependent on different functions of the body, effected by different substances There is racial immunity Again, we have *an immunity correlated with age Variations in suceptibility* are noted in different varieties of the same species and even in different families Again, there is an individual immunity Still again, one part of the body, even one portion of the same tissue, may be immune, while the rest is very susceptible *These facts are not to be explained by general resistance, good* health, etc The most vigorous man may acquire smallpox or influenza The healthiest cow is likely to take pleuropneumonia

Metschnikoff's theory—phagocytic—is the best explanation we have for natural immunity Nuclein seems to be the germicidal agent elaborated by the white corpuscle If natural immunity is due to one or to several chemic agents, it follows that it is limited Chemic action is always greater than life

After recovery from an attack of certain of the infectious diseases, there is more or less of immunity to that disease In some instances, as in scarlet fever or syphilis, this acquired immunity generally lasts for life The immunity following recovery from disease is not proportional to the intensity of the disease process The ability of an organism to resist the attack of disease germs or their products can be increased, trained, *educated, if you will Thus, in producing diphtheria antitoxin,* we often get our horses to bear without apparent harm several times the fatal dose for an untreated horse It may happen that diphtheria or measles may, after generations or centuries, disappear, owing to the fact that the race becomes immune

To what extent an acquired immunity can be inherited is both an interesting and important question This sort of immunity is usually lost, at least so far as our tests show, before the animal reaches the adult stage This inherited immunity is not the same as the immunity of the suckling This is due to the fact that the immunizing bodies pass into the milk The child receives from its mother not only food, but disease resisting power We have active and passive forms of acquired immunity The horse producing antitoxin is actively immune, his tissues are producing antitoxin The child receiving a dose of antitoxin is passively immune It has borrowed the strength of the horse There is an *immunity to poisons* The wolf thrives on putrid flesh Some animals are immune to snake poison The insusceptibility of the morphin user may be something *more than mere tolerance The drug may be, in part,* destroyed, and this anti power may have to do with the craving for the drug

There is no satisfactory explanation for the facts of acquired immunity The various theories as to the nature of antitoxin and its mode of action were given, with the conclusion that *antitoxin, in some way as yet unknown, stimulates some por*tion of the body, and this in turn destroys the poison There is no antitoxin but in short, an immunizing body Immunity and cure are the same thing

Dr **George W Johnson** of Dunning, Ill, has had some experience with nucleinic acid in the treatment of pulmonary tuberculosis in cases of mixed infection, and has noticed a *diminution in the number of pyogenic bacteria*, and asks whether the phagocyte attacks the tubercle bacillus the same as it does pyogenic bacteria

Dr **McClintock** replied that he knows of no reliable investigations that have been made with reference to that point

Dr **Ernest B Sangree** of Nashville said it is believed by many investigators that the phagocytes eat live tubercle bacilli, and that cases in which tubercle bacilli are included in the phagocytes have a better chance to get well than those which do not contain them

Dr **Dudley S Reynolds** of Louisville is afraid that experimental observers have failed to note the necessary equilibrium *between the circulating blood current and the lymph stream* He elaborated the theory of phagocytosis, and showed how phagocytosis can never be successful if obstructions exist in *the lymph channels*

Dr **C L Minor** of Asheville, N C, presented a paper entitled

HYGIENE VS DRUGS IN THE TREATMENT OF PULMONARY TUBERCULOSIS

Under hygienic and dietetic treatment the author embraces all such non medicinal measures as are directed toward an *increase in the vitality of the organism and of its resistance to* disease, and remarks that climato therapy is but a branch of hygienic treatment, although he does not embrace it in his remarks, which are confined to the proper application to individual *cases of exercise, gymnastics, massage, hydrotherapy,* rest, sleep, diet, amusements, clothing and quarters A partial and unsatisfactory use of such measures is more or less general, but unless directions be definite and specific, they will fail of their purpose The difficulty of getting a patient to yield implicit obedience to the doctor was dwelt on, the indefiniteness of the orders given being in part to blame If he is to recover, the patient and doctor must both work hard, no half hearted seekers for pulmonary health being likely to recover The necessity of carefully and fully writing out exact orders for every detail of the patient's life, to be followed religiously by him, was urged, such a prescription in phthisis being of more value than the more common one for drugs All such measures were, for convenience, classed under three heads Those affecting the patient's surroundings, those affecting his life and those affecting his exercise The very common abuse of exercise was deplored, and the invariable rules were stated "*Exercise short of the point of fatigue*," and "*no exercise with* a temperature over 100 4 degrees" Following these no mistake can be made

A very gradual accustoming of the patient to longer and longer walks, beginning with only fifty or a hundred yards in many cases, and increasing until finally from two to ten miles can *often* be easily tolerated, and a judicious use later on of walks on increasing incline till steep hills are easily surmounted, is warmly recommended Pulmonary gymnastics was most especially dwelt upon for use in non active cases, and among several methods for chest development and the increase of vital capacity, that form of Indian club swinging called the "double figure of eight" was chiefly recommended

Finally any intention to advocate nihilism in medicine was denied In carefully selected cases certain drugs have undoubted value as adjuvants, never as the chief resource The short life of most drugs in *phthiso therapy was noted* and ascribed to the fact that no man can treat this disease long and not realize that nothing that in the *least* degree upsets the stomach can be anything but a curse to the patient The only valuable results are those based on a vitalizing of the whole system, a stimulation of metabolism on a strengthening of the cells to oppose the invader The thing to be attacked is not so much the lesion in the lung directly as the lowered vitality of the body, the diminished capacity of the lungs, and the deficiency of appetite, and drugs directed to a conquering of the bacillus *in situ*, are not to be compared with measures which enable the organism itself to acquire the strength to overcome disease These things can be brought about best by an improvement in nutrition, which must after all come from the stomach, and an increase of the amount of oxygen taken into the lungs Air and food are the drugs to which we can always trust, they will never deceive us If a patient can be taught to get both in good amounts wherever food can be assimilated and enjoyed and air breathed deeply, there is hope of cure Throw away two thirds of our medicine bottles and use the other third less often, carry out a hygienic plan of life, stimulate the appetite by nature's appetizers—air and exercise—which are alone permanent in their results, and which are as superior to gentian or quassia as sunlight is to darkness

Dr **S C Baldwin** of Salt Lake City contributed a paper on

CONGENITAL SCOLIOSIS

Scoliosis is the most common of all deformities, it is most often found in children under ten, rarely beginning after eighteen, it is found more often in girls, in the ratio of five to one, the etiology is in a large number of cases very uncertain Congenital scoliosis is very rare Tubley, of London, in the latest English work on deformities, says that he has been able only to verify four cases

The case reported by the essayist was first diagnosed as scoliosis when the child was twenty one months old, but the father had noticed the "lump" ever since the child was first washed The interesting features of the case are that the curvature is in the lower cervical and upper dorsal region There is some pressure on the cord, as shown by the more or less deficient development of the right side The convexity of the curve in this case is to the left There is partial paralysis of the fore finger of the right hand There is sweating and flushing of the left side with none on the right

The cause of the scoliosis in this case is thought to be the lack of amniotic fluid while in utero, probably allowing the muscular walls of the uterus to press on the fetus and hold it in a faulty position, and in this way cause a wedge shaped development of the bodies of the vertebræ This theory has been advanced by Weissenberg, Hirsh, and Schauz in the last year In this case the mother was very small, and passed at the time of confinement so little water that she did not know there was any, and felt no motion comparatively during pregnancy

Dr **Samuel E Milliken** of Dallas, Texas, has seen one case of scoliosis in a child under one year of age, but he is not prepared to say whether it is congenital or not

First Day—Afternoon Session

Dr **William L Baum** of Chicago read a paper on

THE THERAPEUTIC VALUE OF MARMOREK'S SERUM

He dealt with the literature of the subject in an exhaustive manner Twenty two cases have come under his observation in which the serum was used Of these, nineteen were cases of erysipelas, one of erysipelas plus tubercular nuchal glands, one of facial erysiplas during childbed without septicemia, and one of erysipelas with puerperal septicemia and double labial abscess The last was the only fatal case

The deductions he draws from an analysis of the literature and his own experience are 1, in pure streptococcic infections the serum undoubtedly exercises a favorable influence on the course of the disease, 2, in the mixed infections the influence of the serum is noticeably demonstrable, but it merits further trial as an adjunct to other treatment, 3, considering the grave character of the complications of a nonstreptococcic nature reported, ordinary rules of therapeutics demand that in such cases, as with the diphtheria antitoxin, all indicated therapeutic procedures must be employed as well as the serum, 4, in view of the fact that erysipelas streptococci and phagocytes have been found to exist side by side in the lymph channels, it is fair to assume that the influence of the serum is directly exerted bacteriologically on the streptococci and not entirely through a stimulation of phagocytic action, 5, the initial dose in all cases should be 20 c c, to be followed by 10 or 15 c c, according to the indications, every twenty four hours

Dr **Charles L Minor** said his experience is practically confined to secondary infections in tuberculosis He had used the serum of Parke, Davis & Co, with considerable satisfaction, in preference to Marmorek's

Dr **Samuel E Milliken** has used antistreptococcic serum in two cases, both of which terminated fatally One was a case of abscess of the liver, the other a suppurative appendicitis

Dr **William K Jaques** of Chicago, called attention to infections in the pulmonary tract that he has found to be purely streptococcic, and in such cases he has advised injections of antistreptococcic serum with good results

Dr **Baum**, in closing, emphasized the importance of diagnosing the kind of infection present

Dr **Albert Bernheim** of Paducah, Ky, presented a paper and reported three cases of syphilis, in which he administered blue ointment with satisfactory results by the mouth He urges a thorough trial of this method, believing it will please the patient as well as the physician The method of administering blue ointment by inunction is disliked by the patient on account of its nastiness and inconvenience, hence if another method of using the ointment can be substituted with the same good and quick results why not do so?

Dr **James T Whittaker** of Cincinnati, delivered the Address on Medicine, selecting for his subject "Diabetes Mellitus"

Dr **Andrew Timberman** of Columbus, Ohio, followed with a paper entitled

MASTOIDITIS WHEN TO OPERATE AND HOW

The causes and symptoms of this affection were described To know when to operate one must be able to exclude the diseases which are often accompanied by inflammatory conditions over the mastoid, without actual involvement of the bone, and which quickly recede when the primary disease is properly combated Every physician in his experience sees cases of simple furunculosis, and diffuse external otitis presenting as marked symptoms, painful and swollen mastoids The tissues are boggy and the edematous condition is determined by palpation and pain on pressure Such disease, as well as syphilis, must always be excluded as a *sine qua non* before the operating

He divides cases of mastoiditis into two classses, the first comprising those complicating acute aural disease, the second class, those complicating chronic aural affections This division ignores primary mastoiditis, which is very infrequent

The conclusions arrived at were Operative measures should be instituted 1, to preserve the function of hearing as well as to prevent a fatal issue, 2, earlier in mastoiditis due to scarlet fever, diphtheria, and the worst cases of influenza than when due to colds, measles, typhoid fever, etc., 3, in the acute cases of mild infection, when subsidence does not occur within at most eight days (Schwartze), but the shorter period is safer in a virulent infection, 4, recurrent mastoiditis due to any cause, 5, in mastoiditis complicating a chronic suppurative otitis, 6, in acute cases when there is a drooping of the lining membrane of the superior posterior wall of the external auditory canal, carrying with it the membrane Shrapnelli, in chronic cases when at the same place a crater like opening leads to the recessus epitympanicus and aditus ad antrum, even though in neither case symptoms immediately menacing life be present

The author favors the typic or original Schwartze method of opening the mastoid antrum Its success in given conditions justifies its application, its failure in given conditions has resulted in a more perfect procedure styled the Schwartze Stacke, or radical operation

Dr **J Homer Coulter** of Chicago maintains that the general practitioner should not treat cases of mastoiditis in which the symptoms are well defined, and no one who has not had considerable surgical experience should attempt the Schwartze operation

Dr **J A Stucky** of Lexington said that in many cases of necrosis of the malleus he has made a free incision along the posterior superior wall of the canal, curetted the diseased bone away, tamponned the canal lightly with iodoform gauze, and patients have done well without undergoing the radical operation

Dr **Dudley S Reynolds** laid stress on the importance of instituting constitutional medication in the stage of invasion in cases of mastoiditis, saying that an ounce of prevention at this time is most preciously bestowed

Dr **L B Graddy** of Nashville called attention to a point not mentioned in the paper—the differential diagnosis between mastoiditis and mastoid periostitis If cases are carefully observed there is as much difference between the two conditions as there is between a periostitis of the tibia and an epiphysitis This differentiation is of permanent importance in the treatment, whether it be medical or surgical

Dr **J Homer Coulter** of Chicago read a paper on

PROPHYLAXIS IN NOSE AND THROAT DISEASES

He said that there are many preventable pathologic conditions in the nose and throat, and that many of the ordinary diseases of this portion of the anatomy have evoluted into more serious and distinctly different affections, will be admitted without question He omits any reference to such conditions as syphilis, tuberculosis, diphtheria, influenza, or the exanthemata, inasmuch as the possible prophylaxis in each affection is a matter of general knowledge He also omitted reference to any technic details which are at best mooted points with authorities

Surgery does not cure all conditions, nor does it even prove always a prophylactic blessing So also do local applications and constitutional treatment prove unavailing if universally depended upon This is due, in a measure, to the lack of carefully exacting and eliminative diagnoses With the development of our knowledge of the physiology of the nose and throat have come, also, new ideas of the connection between many diseases of those organs and of their relative etiologic importance The impairment to ventilation and drainage is a most important factor, and one usually amenable to surgical treatment. "Taking cold" is not only a most frequent condition, but one the most susceptible to prophylactic measures Clothing of the entire body is a factor of paramount importance in prophylaxis Too much clothing about the head and neck is just as disastrous as insufficient protection Adenoids polypi, spurs, exostoses deviations, deflections, and sensitive areas, are each am[illegible] to [illegible]l treatment and demand such interfere[illegible] d ([illegible]ther hand, too much su[illegible] as [illegible]onserva tism The t[illegible] conditions as should be recognized as a most significant danger signal Anything which produces an alteration in the normal physiologic metabolism of the mucous membrane of the nose and throat, any alteration in the nutrition of the parts, any abnormal variation in functional activity, any considerable change in the histologic anatomy, are each and all remedial surgically or otherwise, and are, therefore, amenable to prophylactic efforts

Dr J A Stucky of Lexington followed with a paper entitled

PERITONSILLITIS OR QUINSY CAUSE AND TREATMENT

Of ten authors consulted, seven, after citing hereditary predisposition, exposure, etc, mention rheumatism and gout as the most prolific causes of this malady Close observation and careful testing in selected cases, convince him that the rheumatic, or more probably the uric acid diathesis, has more to do with the causation of this disease than any other factor

Coming to the treatment, he believes, if the majority of cases of quinsy are seen within forty eight hours after the first onset of the disease, they can be aborted to such an extent that suppuration will not take place In cases that progress to suppuration, he strongly advocates early and free puncture, just as soon as there is marked distention, in order to relieve pain and stop the destructive suppurative process For this purpose he uses a modification of an ear spoon, first described by Spier, and not a knife

(To be continued)

The Chicago Society of Internal Medicine

Second Regular Meeting, Sept 21, 1898

(Continued from page 984)

Dr Daniel R Brower read a paper before the meeting entitled

ACUTE CEREBRAL MENINGITIS OBSERVATIONS ON ETIOLOGY, DIAGNOSIS AND TREATMENT

Cerebral meningitis is, in all the large cities, a formidable cause of death In some years it is surpassed by but few causes of death The following table shows this, as well as emphasizes the fact that the ordinary therapeutic measures are of no avail

DEATHS FROM MENINGITIS IN CHICAGO

1860	1	1891	1,311
1865	21	1892	1,125
1870	172	1893	1,452
1875	255	1894	1,220
1880	408	1895	764
1885	528	1896	606
1890	817		

These figures are much the same as those of other large cities, and show the necessity of a more careful study of the cause, prevention and treatment of this class of diseases The cerebral membranes are favorably placed for the development of bacteria At least nine micro organisms have been found present, doubtless as causative factors in cerebral meningitis, as follows Pneumococcus lanceolatus, diplococcus intercellularis, streptococcus pyogenes, staphylococcus pyogenes aureus, bacillus tuberculosis, bacillus of Eberth, bacillus coli communis, streptococcus seiferti and the gonococcus

The classification of meningitis to be scientific should be based upon its causative, and it is therefore necessary to determine in each case the micro organisms that may have produced it, and herein the difficulty lies Lumbar puncture, and the chemic and bacteriologic examination of the cerebro spinal fluid obtained will enable, in some cases, a differential diagnosis to be easily made This lumbar puncture is a trifling operation It consists in passing a needle into the subarachnoid space between the third and fourth lumbar vertebræ in adults, or between the fourth and fifth lumbar vertebræ in children, about 5 mm to one side of the median line For young children the ordinary hypodermic needle is sufficient, for adults a larger and longer needle is necessary The fluid obtained should be tested first for albumin, but in acute inflammatory conditions the amount is considerably increased, it may be 1 or 2 per cent Then the examination should be made for pathogenic organisms, and when found the diagnosis is complete The Skeer sign, if present, will enable a diagnosis of tubercular meningitis to be made very early This sign was described by me in the Journal of the American Medical Association, Jan 7, 1888, and observed by the late Dr I D Skeer of Chicago twenty years before It is due to the deposition of the tubercle around the pupillary margin of the iris It shows itself first as a distinct wreath of white clouds about a millimeter from the margin (see Fig 1) This sign occurs before any change has taken place in the pupillary orifice After three or four days these minute, cloud like masses disappear and a yellowish, round circle takes their place (see Fig 2), becoming more attenuated as the pupil dilates These secondary changes are doubtless due to degeneration of bloodvessels and tissues from the tubercular deposits Unfortunately, this sign is frequently absent, but when present is pathognomonic of tubercular meningitis

Treatment —A dark, well ventilated, quiet room should be found The patient's should be shaved and surrounded by ice bags, leeches should be applied over the temples, the pain should be mitigated by morphin or antipyrin hypodermatically, the temperature should be reduced by cold sponging, the bowels should be freely moved by calomel, and there should be applied freely to the scalp every day a 10 per cent solution of iodoform The difficulty of medicating these cases by the mouth, led me to adopt the treatment by inunction about fifteen years ago, first with mercury without any success, and then with iodoform with some success Absorption usually takes place promptly, so much so that I have been able to detect the iodin in the urine and saliva one hour after inunction The amount absorbed can not be very great, inasmuch as I have never seen the untoward effects that sometimes follow the use of iodin in open wounds, and I have used in the treatment of a case as much as ten grams of iodoform I have suggested this treatment in consultations in at least a hundred cases, but have been able to get the results in the following cases only

	No of cases	Recoveries	Deaths
Dr J S Hunt (deceased)	8	6	2
Dr J W Fitzmaurice	6	4	2
Dr P H Conley	2	2	0
Dr M Leevenson	2	1	1
Dr W D Neal	10	6	4
Dr David O'Shea	7	6	1
Dr William Martin	2	1	1
Dr G W Reynolds	3	3	0
Dr J C Craig	1	1	0
Dr D R Brower	6	3	2
Total	46	33	13

In one of the cases that died in the practice of J S Hunt, and of the cases I have reported as terminating fatally, the Skeer sign was present, making the cases tubercular meningitis In the other fatal case I have reported, lumbar puncture determined the bacillus tuberculosis to be present The diagnosis in these cases was made by the attending physician and myself, and any one of those whose names appear in the list are perfectly competent to make a diagnosis Indeed, there are none more so Many years of practice and excellent scientific attainments are qualifications of them all Some of these cases were exceedingly unfavorable, notably the case of Dr Craig, that did not seem to offer the slightest hope of recovery

I trust that this communication will result in a more general use of this plan of treatment in this perplexing class of cases, and that it may aid in diminishing the great mortality from meningitis found in our city health reports

Dr W D Neal—It is a matter of surprise to me that Dr Brower brings this question up this evening I have not given the subject any thought for quite a while These cases were given over the telephone, and I am not sure there was a correct understanding as to the remedies employed in all of them If I remember correctly, two of these cases recovered where I did not use the inunctions It was before I began their use It may be possible that in one of these cases the diagnosis was not clearly made out The percentage of recoveries given here looks high, and the same ratio might not have been maintained if carried farther There were other elements brought to bear in some of these cases which I thought cut quite an important figure, at least, I put a good deal of stress upon the minute doses of calomel particularly in younger children It might have been the inunctions, but I have a good deal of confidence in minute doses of calomel often repeated I do not know how it acts, but I am sure I have had good results from the use of the inunction and calomel combined I have not kept any data of my cases since talking to Dr Brower, and I am inclined to think that the percentage of recoveries has not run so high, but I have come to the belief that the disease is not necessarily fatal, and that the mortality can be greatly reduced by this method of treatment

Dr M L Goodkind—I should like to ask if there are not a great many cases simulating meningitis that occur in infectious diseases, particularly in children, such as pneumonia, and intestinal toxemia, which get well spontaneously with the subsi dence of the malady producing the meningeal symptoms, cases of opisthotonos with convulsions and general rigidity, with contracted or dilated pupils—cases that can not be called meningitis, although they closely resemble it Possibly that may be an explanation of some of the cases recovering under calomel and iodoform inunctions

Dr Sanger Brown—I would like to briefly call attention to one aspect of this subject, and that is regarding the differentiation between pseudo meningitis and acute meningitis I think this is a point which frequently perplexes the practitioner, and one on which we would like some light It often happens to those of us who do some consultation work to find that between the time the practitioner decides to call a consultant and the time at which the consultant arrives the symptoms will have sufficiently declared themselves in one way or another so that then it is comparatively easy to make a diagnosis

It must be admitted that in a great many conditions, especially in children, it is impossible to determine, often for many hours, whether we have to deal with a case of pseudo meningitis or a case that will afterward become an undoubted acute meningitis I think we are warranted in the assumption, now that it has been discovered and pretty well demonstrated that so many different kinds of bacilli are competent to act upon the meninges and produce meningitis, that the symptoms that we get in many of the infections are probably due to the action of a bacillus or bacilli upon the meninges, and that, as the process advances, there is a concentration of the bacilli to some place or organ for which they have a greater affinity, and the meningitis aborts, so to speak I think this is a more rational view to take of the subject than to assume that the pseudo meningitic symptoms are due always to the action of a morbific influence in some remote part or organ, that is, to reflex action

I was struck forcibly with this recently in consultation where there were at first marked symptoms of pseudo meningitis, which disappeared in the course of a few days, and pronounced symptoms of acute anterior poliomyelitis declared themselves The attending physician, who was a very competent man, and had of course seen a great many cases of actual meningitis in his practice, felt sure that he had to deal with a case of this disease There was well marked opisthotonos, vomiting, and constipation lasting for a day or two, when the mother, who was herself the daughter of a physician, noticed that the child was not using the lower extremities and one arm as much as she thought it ought to In the course of a day or two all the pseudo meningitic symptoms entirely disappeared, and when I saw the case, ten days later, it was one of well marked acute anterior poliomyelitis Now, we have every reason to believe that acute anterior poliomyelitis is due to infection, and we know that acute meningitis is so caused I think this hypothesis is well worthy of our consideration, and it derives further support from the fact that as a general rule, in cases of patients dying from actual, well marked attacks of acute meningitis, in quite a large proportion we find very much less evidence of disease macroscopically in the meninges and cortex than we should have been led to expect, and yet we can have no doubt that the action of these microbes upon the membranes and cortex produced the meningitic symptoms I repeat, then, that it is not a difficult matter, at least according to the view I take of it, to infer that many of the symptoms in so called pseudo meningitis are actually due to the action of bacilli upon the meninges and cortex, and that they rapidly subside, either by destruction of the microbes that caused them, or that these abandon the meninges and concentrate in some other part of the economy, giving rise to this or that type of infectious disease

That shock, however, caused by intestinal irritation or extensive superficial burns, for instance, may excite convulsions in children, must be freely admitted

Dr R B Preble—The thing which impresses me most in this report is the wide difference between it and the mortality which we are led, both by our reading and experience, to believe prevails in meningitis If we take from the table the 4 cases which are admitted to be tubercular we have 42 cases with 33 recoveries, that is a mortality of 25 per cent for a disease which all authors agree is almost invariably fatal, with the exception of meningitis which is classified as epidemic, and even in this form the mortality ranges anywhere from 80 to 20 per cent, the cases toward the end of the epidemic being milder and averages about 37 per cent We must, therefore, be strongly impressed by a report in which the mortality is about 25 per cent, especially when we consider the fact that the therapy has undergone no radical change, we have here nearly the same therapeutic measures which have been employed for years and which have been, not given up but regarded by most authorities as having little more than a palliative effect

There are a great many conditions which simulate meningitis, nephritis for one, it being not uncommon for uremia to simulate meningitis, and the differentiation can be made only by an examination of the urine or a postmortem, in which the brain will be found in a normal condition or showing but little hyperemia or edema Another condition, which frequently gives rise to such meningeal symptoms, such as isolated paralysis of the ocular muscles, can occur from sepsis, just as it can occur from nephritis Personally I have seen a number of cases which clinically closely simulated meningitis, the simulation going far enough to pick out separate eye muscles, separate cerebral nerves for paralysis, but postmortem showed the cases were not meningitis I have seen other cases which I believed were meningitis that recovered, and I could only say that I was not certain I have only seen one case where I was sure that it was meningitis That case I saw recently in Dr Butler's ward at the County Hospital The man gave the usual initial history of meningitis, facial paralysis, choking of both discs, pure culture of the meningo coccus from the fluid gained by lumbar puncture, and yet he recovered I feel reasonably sure that in this one case I saw meningitis recover There are a few cases of tubercular meningitis in which recovery has taken place Elham records one case of recovery after lumbar puncture with demonstration of tubercle bacillus Eichhorst has one case Luebe had one case, and Koliako of Vienna had a case

In view of the wide difference between Dr Brower's results and the general opinion of the mortality of meningitis, we must demand more accurate details of the individual cases, before we can accept this table and before we can adopt the use of the iodoform inunction with any confidence

Dr H M Lyman—More than thirty years ago I had from the late Dr Bevan an interesting pointer in regard to meningitis I had a little patient whom the year before I had rescued from death by furnishing a wet nurse when he was starving, under the care of a homeopathic physician who did not believe in wet nurses, consequently I felt a good deal of interest in the case After recovering from the perils of lactation and early dentition, he was finally attacked with symptoms which I attributed to tubercular meningitis The classical symptoms were all present and I had no doubt of the result I called in Dr Bevan, who suggested that it might be pseudo meningitis and was probably due to some disturbance of the digestive organs He advised the use of small doses of calomel with tincture of belladonna, and in a few hours the photophobia, the irritability and other evidences of meningitis subsided and in a few days the patient made an excellent recovery Since then I have seen a number of such cases, and I think it would be well for us to recall to mind the fact that the onset of very many diseases, especially with children, is apt to be exceedingly severe and that many cerebral symptoms are prominent which would lead us to believe that they are really due to congestion of the meninges, and yet it will all clear up in a short space of time, with or without treatment So in analyzing a table of this kind, for the city record, especially, I think it would be desirable to have an accurate statement and description of the characteristics of the cases before we decide as to the results of any form of treatment

With regard to the symptoms involving the iris, I used to see some of these cases with Dr Skeer It was his belief that they were due to local tubercular deposit but I was never able to discover anything of the kind, the appearance depicted in the iris appeared to me to be due to effusion of an inflammatory character When tuberculosis involves the eye, tubercle is usually deposited in the choroid and does not manifest itself in the iris I am not able to find any description of tubercle upon the iris, but this peculiar formation in the iris is not so very uncommon, and is a very interesting symptom when present, though by no means as diagnostic as Dr Skeer was led to believe In those days the matter had not received attention and been described in the books as it now is, but now it is a well known symptom So far as the treatment is concerned in tubercular meningitis, you must rember that recoveries occasionally occur, but it has long been noted that patients who are supposed to recover from tubercular meningitis are liable to returns of the disease Certain foci of tuberculosis in a distant part of the body perhaps, would disseminate tubercular germs and there would be a temporary inflammatory condition lasting for a time, the patient apparently recovering from that, then there would be another scattering of seed upon susceptible soil and another attack which usually proves fatal So where there is reason to believe that there is tubercular meningitis temporary improvement or apparent recovery should not lead us to flatter ourselves that recovery has actually taken place any more than in tuberculosis of the lungs where a tubercular focus having formed giving rise to symptoms which have subsided, should lead us to suppose there is a final recovery, it is simply a stage in the disease Tubercular meningitis is almost invariably fatal in the first or second attack So far as the disease Dr Brown has alluded to as pseudo meningitis, is concerned, connected with spinal disease, it is a well recognized fact and I have seen a number of cases of the kind, that the onset of true poliomyelitis is attended with a violent reaction of a similar character, the disease frequently in its onset resembles clinically the ordinary form of spinal meningitis I have not seen a case resembling tubercular meningitis, but I have seen cases resembling epidemic spinal meningitis in the early stage, then points of differentiation appear so that finally the diagnosis is cleared So far as lumbar puncture is concerned, that is advisable as a means of investigation in asylums and hospitals where you can treat your patients as so many blocks of wood, but in private practice it is almost out of the question, and I think it would be advisable to reserve that method of investigation for selected cases I should not recommend it to be employed in general practice, for with such treatment you would lose a great many patients The result is uncertain, as has already been intimated, and you may make a puncture and get one kind of microbe, while another form that is producing fatal results will pass undetected So with regard to the treatment of the disease this much may be said that in the worst forms of tubercular and epidemic cerebro spinal meningitis there is no remedy that is of much value You can palliate, but you will rarely succeed in curing In the milder forms of the disease there is more hope The patient dies from the poisonous toxins that circulate through the fluids of the body, therefore, if the kidneys are active, if the liver is efficient, there will be a better chance of recovery Calomel is a positive diuretic, it does stimulate the action of the kidneys, it stimulates somewhat the action of the excretory functions of the biliary organs, and furthermore it intensifies the activity of other remedies As for iodoform, a patient with a shaven head daubed with ointment produces a very imposing effect upon the bystanders, but so far as its absolute potency in curing the patient is concerned it is very doubtful Its use has been pretty generally abandoned in the European hospitals where it has been tried

Dr H T Patrick—Ever since I was an interne in the Infants' Hospital in New York, some fourteen years ago, I have been slow in making a diagnosis of meningitis We had a lot of babies, and unfortunately a lot of deaths, as I remember—about a thousand a year Most of these were posted, and it was startling to see the almost uniform absence of meningitis on the postmortem table, as contrasted with the apparent frequency of meningitis in the wards It is a fact that is always recognized, but seems to be never quite comprehended that there is hardly a disease children have that will not produce the symptoms of meningitis I have seen all the principal signs of meningitis in acute follicular tonsillitis, in pneumonia and gastric trouble, and there is a whole group of cases of pseudo meningitis without apparent cause—a group the French call meningism In other words, I would say that pseudo meningitis is enormously more frequent than true meningitis Every little while I see a case of cerebral paralysis, for instance, in which a diagnosis of meningitis was made by the attending physician at the time of the attack, and held to for a considerable time subsequently Like Dr Brown and Dr Lyman, I not infrequently see cases of poliomyelitis that at the inception were very much like meningitis, and were so diagnosticated I do not mean, for a moment, to cast a shadow of doubt upon the diagnostic ability or medical acumen of the gentlemen quoted here this evening, but I would like to emphasize a caution that it is almost too easy to make a diagnosis of meningitis In the little consultation work that comes to me in this direction, I much more frequently have to say "No, I think it is not meningitis," than to say "I think it is" The symptoms of general toxemia arising from any sort of infectious disease in children are so prone to manifest themselves by cerebral symptoms, and if we have two or three or four striking cerebral symptoms and the patient is very low, it is so easy to say meningitis, when really there is no adequate foundation for such a diagnosis

Dr David O'Shea—Taking it for granted that Dr Brower's treatment for meningitis is now recognized as the most valuable treatment within our knowledge, there can be no doubt in my mind that Brower's treatment possesses very many advantages which are not possessed by others Lumbar puncture and Skeer's sign, with a good deal of experience, is a condition that will make a clear diagnosis of meningitis This method will certainly exclude pseudo meningitis diagnosis

Treatment is simple yet very effective, administered as follows Locally, after shaving the scalp, the following combination is applied Lanolin et iodoform, 10 per cent, three times, daily, ice continually in cap, dark room, plenty of fresh air, free bathing, diet milk, soups, icewater and fish General treatment potass iodid and ammo bro Local treatment as previously stated

The following cases consulted with Dr Brower

Case 1, in 1894, female aged 3 years, sick six weeks, recovery perfect

Case 2, in 1894, aged 3 years 6 months, sick nine weeks, perfect recovery

Case 3, in 1894, aged 4 years, sick seven weeks, fully recovered

Case 4, in 1894, male, 2 years of age, sick eight weeks, recovery perfect

Case 5, March and April, 1898, 1½ years of age, female, sick nine weeks, recovery perfect

Case 6, 1898, male, 3 years, sick seven weeks, recovery perfect

Case 7, 1898, female, 5½ years, sick seventy one days Hereditary tuberculosis This case broke my record I had all hopes of her recovery until the tuberculosis condition exhibited itself in miliary tuberculosis, complicated with acute nephritis Previous to Dr Brower's treatment my success was limited

Compared in percentage to the recoveries Brower's treatment, recoveries, 86% per cent Previous treatment digitalis and belladonna was my anchor sheet, but failed in percentage of recoveries In eight previous cases, 56 per cent of recoveries

To find the good effects of Brower's treatment, you will find iodid in the urine three hours after application I hope Dr Brower's success will continue

Dr D T Nelson—This discussion comes very close home to me, as I have had three cases in my family of what I called cerebro spinal meningitis Two died and one recovered The worst case got well The little girl was 1½ years old at the time of the attack, the whole duration of the disease was perhaps six weeks The baby was born nine days before the great Chicago fire She was seen by our best physicians I am not sure that Dr Lyman saw her, but the elder Davis and the elder Byford and Roler did, and like myself, they supposed she could not recover because it was tubercular meningitis To give an idea of the severity of the case, the child was ten days without winking, and as she recovered scales fell from her eyes I do not know whether it was simply dried mucus or whether they were portions of the cornea I supposed she would never see, but she sees as well today as any one She likewise hears as well as any one, and has had no nervous disturbance since except chorea at the age of 10 or 12 years She recovered completely from the chorea, she was loaded with strychnin until she fell down stairs, but whether the fall was due to the strychnia or the chorea I do not know Strychnia was pushed till there was rigidity of the muscles of the face and jaws Her mother said she should not take any more strychnia, and she did not, but she had considerable chronic symptoms afterward I am not familiar with the iodoform treatment, that has come up since I have had much to do with these cases There was one remedy, a sheet anchor in my day, in the treatment of these cases, and that was repeated blisters, as one healed it was repeated, and it did more to save lives than anything else in my belief, provided the patient could take nourishment I believe that was what saved this patient, she would take beef tea and milk, all that was given to her, and that was in large quantities The trouble was with respiration and the heart's action There was no trouble fortunately with deglutition The respiration was slow, it would stop entirely sometimes for minutes Once I went to the drug store to get a supply of medicine and they sent word that I need not bother about it as the child was dead, she had stopped breathing, they supposed so long that she must be dead, and with reason, except she did not become pale The child had received enormous doses, for her age, of digitalis and belladonna, and if any internal therapeutic agents saved the child it was these For external applications she had blisters

By the advice of William H Byford I once placed a blister on the forehead We believed the case to be tubercular meningitis, and therefore expected a girl of 12 to 14 years would die Our patient did die We should give as little morphin as possible I am a great believer in calomel I remember at that time I was consulting everybody, and one physician said, give diuretics, let your sheet anchor be diuretics, as potassium acetate, that is, if there is sufficient vitality in the nervous system to aid your remedies in producing their usual effect, if the system is not completely paralyzed by the disease, excretion is the desirable thing But the cases vary I remember in one of the early epidemics a leading dentist here died with what was believed to be cerebro spinal meningitis after an illness of thirty six hours I think we will always find that in the early cases of an epidemic the mortality is much greater than later, but it may vary from 100 per cent to almost nothing

One symptom has not been spoken of tonight, although it is recorded in the older books, namely, the spotted character of the skin, which was well marked in my severer cases

The first case I ever saw was in the army, soon after the surrender of General Lee, in the U S Post Hospital of Richmond, Va The disease was quite prevalent in the army at that time, and was called spotted fever The spots were well marked, as large as the finger nail and as small as a split pea, due doubtless to paralysis of the cutaneous vessels

To return to the blister it seems to me from a study of physiology in former years, that if one hand be put in ice water and a reduction of temperature be shown in the other, there is something of reflex action, though I see it decried now by many neurologists It seems to me a blister can and does have some effect Bromids and ergot were then used freely in the early stages of the disease, and later, when the evidences of effusion and paralysis appeared Iodid of potassium and diuretics were substituted, but blisters were continued until complete recovery took place

My little baby boy, who died at the age of four months, June, 1874, of cerebro spinal meningitis, in the stage of effusion, was the first case that I ever saw or heard of where the lateral ventricles were tapped by the Dieulafoy aspirator, which was then beginning to be used It was done by Dr H A Johnson at my earnest request, as he feared the child would die during the operation It was done through the anterior fontanelle, and about an ounce of serum removed, and while the baby rallied for a time, it died in some twenty four hours from the reaccumulation of the fluid. Although electricity was freely used, the child died from failure of respiration and of the heart's action

Dr **Archibald Church**—I am glad to be made familiar with the ocular sign in meningitis, and in the same connection I would like to call attention to the sign mentioned by nearly all writers on the subject, but which is rarely sought for in practice—the sign of Kernig It is due to the tendency to rigidity, and is elicited by straightening the leg upon the thigh flexed to a right angle with the trunk, as in the sitting posture In the great majority of cases a certain amount of contracture will be demonstrated in the flexors of the knee before nuchal retraction appears I have found this so constantly present that I look upon it as of extreme value

In a recent very comprehensive article by Councilman, published by the State Board of Health of Massachusetts, and based upon the examination of a large number of cases occurring in Boston during the past two years, the statement is positively made that in all of the epidemic forms of cerebro spinal meningitis the meningococcus of Weichselbaum was found He asserts that it is the essential organism in the epidemic form, and also suggests that a test of the nasal mucus in cases of epidemic meningitis will often lead to the detection of the meningococcus, thereby serving to establish the diagnosis A recent contribution in German literature, however, would give the negative to the assertion as far as the nasal secretion is concerned, because in a large number of cases where no meningitis was present, the meningococcus was found in the nasal secretions This, however, gives us an idea how infection occurs when the nasal vault or the internal ear is ruptured by fracture When Councilman presented his topic before the Johns Hopkins Hospital Medical Society, Welch, who had a large experience in the epidemic form from the material presented by Barker and Flexner, took the ground that very likely the meningococcus of Weichselbaum was one stage of the pneumococcus, which he had found invariably in the epidemic at Lanaconing He was not willing to assert this, but thought it might be the case

The relation of meningitis to pneumonia is one of great intimacy, as has been emphatically pointed out before this society by Dr Wells, and this table presents the same fact You will notice meningitis appeared to attain its greatest frequency in 1891 to 1894 and 1895, years when grippe was prevalent, and grippe, pneumonia and meningitis are almost interchangeable terms as we know from clinical experience Pneumococcus meningitis is almost invariably fatal, while the meningococcus form presents 15 to 50 per cent of recoveries If we can detect the micro organism we have a prognostic help Lumbar puncture, if giving positive findings, is of some value In a case under my care some years ago at St Luke's Hospital, lumbar puncture carefully performed several times was negative, at the same time the head was markedly distended It was an infant and the fontanelles were still open and bulging I subsequently punctured the lateral ventricle through the lateral angle of the fontanelle, and secured a large quantity of fluid which presented the pneumococcus in large numbers The child died, and a section made by Dr Eisendrath, showed that there was in addition a tuburcular meningitis—a rather rare mixed infection I think lumbar puncture should be carried out as a routine measure, and as a diagnostic measure has value, but as a therapeutic measure it is of slight importance Jacoby of New York has suggested making an opening into the ventricles through the skull and dura, in conjunction with lumbar puncture, for the purpose of washing out the intradural spaces By making such openings the entire field could be irrigated He also advises that iodoform be used in making the flushings I have used iodoform inunctions as recommended originally in Germany, in a number of cases, and like Dr Neal, have associated small doses of calomel I am indisposed to give up the calomel, feeling that it may act as a germicide, perhaps, or counteract in some way the toxic effects of the germ activity, besides increasing elimination through bowel and kidney

Dr D R **Brower**, in closing the discussion, said I am very pleased that this communication of mine should have produced such an interesting discussion I am very much obliged to you for the attention you have given it and I am very grateful that there is some disposition to investigate it and to induce further investigation I would not have dared to come to this Society and tell you that I knew of 46 cases of meningitis with 33 recoveries, I would have been annihilated if I had done so, but I brought with me the names of medical men who ought to know, if they do not, how to diagnose and investigate some of these cases I saw most of these cases but I will not father them all These observations began some ten or fifteen years ago I do not believe these cases were pseudo meningitis—I do not believe they were intestinal reflex irritation, I believe they were meningitis Dr Neal is sure his cases were meningitis and not pseudo meningitis The value of the therapeutic measure is the persistent use of 10 per cent inunctions of iodoform with lanolin to the shaved scalp, thoroughly applied, and in an hour we can find the iodoform in the urine or in the saliva The system is saturated with iodin and I believe that iodin is a germicide Calomel was given to most of these cases one time or another constipation characterized the majority of them, they vomited castor oil, and calomel had to be given as the agent that would produce a laxative and a diuretic effect

As to the Skeer sign, Dr Skeer, some fifteen years ago, first called my attention to this The first case he observed was a member of his own family who died of tubercular meningitis, and in another case occurring in his own family, the same sign was present and was verified postmortem He called my attention to this sign in a case I saw with him in consultation In that case the result was verified postmortem, and in two other cases in which this sign was present the result was verified in the same manner So I know of four cases in which this sign has been verified postmortem Of course that is not very many It is not present in all cases of tubercular meningitis If it is present in any other disease I have never seen it It is the first stage only of this sign that is easily diagnosed The reason I seldom see it in consultation is that I am never sent for until it is pretty nearly extinguished When the case is about to die the consultant is sent for in order that the case may go *secundem artem* I would suggest, as Dr Moyer has suggested, that there might be some positive investigations along this line and I hope the members of the Society will attempt to cure this disease by iodoform inunctions Use calomel all you please, and properly selected means of reducing temperature locally and generally, but give iodoform inunctions a trial and let us, a year hence give this subject further consideration I would be glad to have the members of the Society communicate their investigations I believe the Skeer sign is pathognomic of meningitis I do believe that some cases of acute meningitis are modified in their course, possibly aided to recovery by inunctions of iodoform and lanolin

San Francisco County Medical Society

Dr **Harry M. Sherman** presented a paper entitled

FAULTY UNION IN A FRACTURE OF THE FEMUR, RESECTION, AND UNION IN GOOD POSITION

The history of the case reported was as follows The patient, a young woman of 18 years and 10 months, had fallen when a child of 8 and struck on her hip since which time, or for over ten years she has had a limp, rendering locomotion almost impossible, and has suffered considerable pain The fall occurred during an epileptic seizure At that time she was confined to the bed for a week only, the trouble not being consid ered grave at first, it subsequently became worse She had not been able to stand on the right leg, the one affected by the fall, for ten years A few months ago she fell again, striking her knee, there resulted some soreness of the knee, but no trouble with the hip The patient, at the time she presented herself at the University of California clinic, was exceedingly fat, so much so as to prevent her from walking almost entirely, for she could only with great difficulty and for a short time use crutches On examination she exhibited 20 degrees of adduction, and the greater trochanter was 5 25 cm above Nelaton's line, owing to the excessive fat the diagnosis could not be exactly made out, but seemed to be a posterior dislocation of the head of the femur The possibility of an intracapsular fracture was discussed, but was not held to be very probable There had been no epileptic seizure for some years The right leg was flexed 40 degrees, and had the characteristic appearance of a posterior dislocation The girl was sent to the Children's Hospital, where it was decided to operate for the reduction of the dislocation An incision after the method of Lorenz was made, the proper muscles divided, and then, when the finger was introduced, the head of the femur was found to be in the acetabulum Forcible traction was made, resulting in a prompt fracture of the neck of the femur, at the site of the old fracture A gauze drain was introduced, the limb bandaged and fixed with some considerable abduction The operation was made August 14, and the patient was up October 20 Shortly after first getting up she had an epileptic attack and was placed upon bromid as an article of diet She was discharged from the hospital with instructions to use for two weeks, two crutches, for two weeks, two crutches in the street, and one in the house, for two weeks one crutch in the house and a crutch and a cane in the street, for two weeks a crutch in the street and a cane in the house for two weeks a cane in the street and nothing in the house, and after another two weeks to use no artificial support either in the house or out of doors At the end of three months the patient was again seen, and at that time she had a slight amount of adduction, but walked well without any assistance She was seen still later, and the result was very satisfactory There was considerable fibrous anchylosis, but little motion at the hip joint, yet she could walk well and had no pain Dr Sherman urged that operative interference be more often resorted to in those cases of intracapsular fracture of the neck of the femur which were not impacted, where there was impaction, interference was not needed, but he urged that many cases of this fracture in old people might be very markedly improved by operation somewhat after the method he had employed Dr Sherman also exhibited Grattan's osteoclast, recently devised for the more satisfactory refracture of bones He illustrated its manner of easy adaptation to almost any bone or region, and dwelt upon the fact that with this instrument it was possible to fracture the bone by means of what was practically a blow and not merely a crushing, consequently it gave a much cleaner fracture than could be obtained by other devices, and the fracture was always at a known point, opposite the descending jaw, or "jack," of the instrument He had that day used the instrument on two legs with eminently satisfactory result He also exhibited some photographs and skiagraphs of a case of arthritis deformans of both knee joints, which was remarkable for the amount of deformity, and the fact that apparently the man ought not to be able to walk with the amount and extent of deformity present The knees, especially the right, were so much disturbed in their relations that the inner tuberosity of the tibia was exactly over the external condyle of the femur Yet the man could walk easily and had very little limit to the proper motions of the joint He had applied to the University of California clinic for a brace to relieve the tendency of the leg to spring outward in walking, due to the improper location of the strain caused by the deformity

Dr Kenyon said that he recalled a case he had operated upon many years ago, for relief from the deformity resulting from a fracture of the femur He had operated by sawing through the femur between the greater and lesser trochanters, and the result had been excellent, the patient being some years afterward killed while she was riding horseback, thus showing that she had improved sufficiently to take such exercise

Dr Sherman said, in reply, that his case was one of intracapsular fracture, and that the operation had been an intracapsular fracture, and not a subtrochanteric osteotomy, as was the case with the patient reported by Dr Kenyon He urged that these cases of non impacted fracture be operated upon, being strongly of the opinion that the results would be very much better than at present if this was done

Dr Whitney said that he had recently seen two cases of intracapsular fracture of the neck of the femur, in both of which there had been crepitus and every evidence of non impaction, and yet both of the patients had refused to remain in bed, and had gotten up almost immediately after the accident Both were doing well and walking around with very little discomfort One was a woman 82, and the other a woman 85 years of age Certainly there would have been nothing gained in these cases by operating He asked what explanation Dr Sherman would make of the fact that these women were so soon walking about, apparently with a perfectly healed fracture of the neck of the femur, where there had been no impaction and no operation

Dr Sherman answered that he thought the patients mentioned were probably walking on the capsule, and that there had not been bony union of the fracture He did not believe that bony union ever occurred in cases of intracapsular fracture of the neck of the femur in old people It was a question entirely of the nourishment of the upper fragment, and the nourishment was so trifling, without impaction, that he did not believe it possible for true bony union to occur For that reason he was extremely careful in examining all cases of suspected fracture of this region, not to use any force, he never made the examination under chloroform, and never manipulated the leg at all forcibly If he could not easily determine the condition he much preferred to await developments rather than to use force and run the chance of breaking up an impacted fracture

Dr Nusbaum presented a report of a case of

CONGENITAL DEFORMITY

He had hoped to be able to present the case to the society, but, unfortunately, it had some days previously developed bronchitis which proved fatal very suddenly At birth the case presented the following appearance The right radius was absent, the hand was clubbed, the thumb, which was perfectly developed, hung by a mere thread from the hand, the right ear was bent forward, and in front of it was a tit of skin, sharply pointed, near the umbilicus were two hernias, there was right facial paralysis The child had been born on Jan 17, 1898 It was the fifteenth child of the parents, the father was a confirmed drunkard, the mother was apparently healthy, six of the fifteen children are living and all were normal at birth The birth of the present one was normal and no forceps were used The mother stated that she had fallen four times while carrying the child, and it was probable the husband had abused her during the period of gestation The husband had applied to the doctor during the pregnancy for some ergot, expressing his desire to produce an abortion, it was not supplied by Dr Nusbaum but the man may have obtained it from some other source The Doctor then cited a number of authors on the subject of multiple deformities, and stated several theories

Dr Hunkin said he did not think that external violence could have produced the deformities described, he was rather inclined to believe that the condition of the thumb and the absence of the radius might be explained by assuming an incomplete intra uterine amputation, from the cord having encircled the arm Dr Kerr asked if there were any rudiments of the radius and it was stated that there were no rudiments, that the radius was totally absent

Dr Kerr then said that he thought no pressure or external violence could have produced the trouble, nor yet that it could have been caused by uterine amputation, for in either of these cases there would have been some trace of the missing bones He mentioned some statements which he had seen in a medical journal, the writer of which he could not recall, which were to the effect that in a number of cases where these multiple deformities had occurred, alcoholism could be directly traced as the probable cause One case in particular was mentioned in which the conception had commenced when the father was quite intoxicated, other children by the same parents, but which had been conceived when the father was sober, did not show any deformities at all

Dr Hunkin mentioned several cases which he had seen, but in which the radius was missing from both arms, and not only from one, as in this case, he felt that alcoholism could be eliminated from the cases he mentioned

Dr Sherman stated that he thought the condition of the thumb was the result of an incomplete intra uterine amputation, as has been suggested, no matter what the cause of the other abnormalities might have been As to the statement that the radius was totally absent, that he thought could not have been made with absolute certainty unless the case had been skiagraphed, which had not been done in this case He did not believe it possible to be absolutely sure of the absence of any bone, without the aid of the X rays He mentioned several cases which he had had the good fortune to see, one of which was the child of apparently, perfectly healthy parents

Two children had been born, both of them normal and healthy, the parents were abstemious, the father not drinking at all, and he thought not even smoking Yet there had been many deformities in the third child It had been brought to him to see what could be done He refused to make any statements or attempts at treatment until the child had doubled in weight It was then again brought to him, and a careful examination revealed double club foot, double club hand, rachitic deformities, and a peculiar condition of the knees Both knees were much deformed, the tibia on both sides was riding upon the femur, and there was absence of patellæ, with hyper extension He applied constant traction, till the tibia was drawn down to a point where it just rested on the femur, no amount of strain would, however, cause it to descend into place The child had sickened somewhat in the hospital, and he had sent it away to the country, but would later on make further effort to improve the very unfortunate condition of affairs

Dr Nusbaum said, in closing, that he was quite sure that there was no radius in the case he had reported, several physicians saw the case, and they were all of the same opinion

Cincinnati Academy of Medicine

Regular Meeting, October 17, 1898

Dr Ricketts made a supplementary report to a case of "Ununited Fracture of the Middle Third of the Left Humerus," which he had first reported to the Academy in February, 1898 This fracture had been but one of numerous injuries, there being sustained at the same time both maxillary and Potts' fractures The case had been operated on when it was found that union was not taking place A long external incision was made, the ends of the bone freshened and brought in apposition with a single piece of silver wire Unfortunately, erysipelas set in and involved not only the wound of incision, but spread over the arm, shoulder, chest and back, neck and face, and downward involving the buttocks Two months afterward his fracture was still not united The arm was not put in any kind of casing Whether the effect of erysipelas causing great irritation about the non united pieces, or what not, at any rate when he began to recover from the debilitating effects of his erysipelas, the ends of the bone began to knit, and now he has almost perfect use of the arm with but a minimum of shortening The Doctor, in investigating the source of the erysipelatous attack, found that the patient himself had had the disease but a few months previously It is interesting to note that previous to the operation the patient had but little or no use of his forearm and fingers It was found during the operation that the median nerve had been caught between the fragments and more or less lacerated Release of the nerve was eventually followed by perfect use of the muscles supplied by it The man is 58 years of age

The second case reported by Dr Ricketts was one of epithelioma of the nose, almost centrally situated He had burned away the diseased portions with a caustic paste, and had performed a plastic operation, pushing the flaps from the cheeks and using the septum nasi as a sort of beam for their support This was three years ago, and while during that period he had been compelled several times to remove recurring nodules, the present result may be looked upon almost as a cure

Dr Robert Sattler reported two cases of myopia of high degree In one, a young woman, the exact degree could not be exactly determined, owing, probably, to dioptric as well as axial astigmatism The best vision obtainable was 2/10 Treating each eye separately, he first established a traumatic cataract, removed the lens, and by a number of discissions established a clear pupil Fourteen operations were made in all Now with slightly plus glasses she is able to read the finest print. In the other case, a young man, the myopia of each eye amounted to sixteen diopters Only one eye has as yet been touched, and a traumatic cataract is very evident The Doctor expects by removal of the lenses to take away from nine to twelve diopters from the myopia, so that the boy with a concave glass of from seven to four diopters may have fairly good vision

Dr Sattler then read the regular paper of the evening, entitled "Recent Advances in Ophthalmology of Interest to the General Practitioner" He first called attention to the modern hope of restoring comparatively good sight in patients afflicted with high grade myopia, not rapidly progressive, nor connected with serious damage to important structures as liquefaction of the vitreous and detachment of the retina The case he exhibited was but one of a large number both in his own and in the experience of others The method was first the formation of an artificial cataract by means of carefully guarded traumatism, the removal of the cataract thus formed, followed by discissions in sufficient number to establish a useful pupil, or the removal of the non cataractous lens —an operation attended with slightly increased danger

He then took up the subject of senile cataract, and the actions of the numerous charlatans who advertise its removal without the use of the knife, their method consisting in instilling into the eye a collyrium of any mild combination, usually with boracic acid, and following this up with massage which massage could only be administered by the advertiser himself The relief—never cure—occasionally obtained, the speaker ascribed either to the imagination of the patient, or to the lenticular myopia sometimes occurring in old age, presenting the well known phenomena of second sight Complete relief from any lenticular opacity could not be brought about without operative procedures

The third point to which he called attention was the care of the new born infant's eyes as a prophylactic to blenorrhea neonatorum He recommended that in all hospitals and public institutions, among the lower classes of society, and in all infants in whom a possible infection was even suspected, there should be immediate disinfection of the conjunctival sac according to the method of Credé the careful and proper use of a 2 per cent. solution of nitrate of silver, not dropped into the eyes, but with the child's head between the obstetrician's knees, with proper cleanliness especially of the hands, with the lids everted, a thorough brushing to be made, followed by the washing away of the excess of silver solution with sterilized water If the silver solution were merely dropped into the eye, a severe traumatism of the cornea might result, which might be followed by the direst consequences He also stated that while specific gonorrheal infections were undoubtedly the most virulent, any purulent ophthalmia at this very early period of life would probably result seriously as far as ultimate vision was concerned

Discussion was by Drs Christian, Caldwell, Johnston, Jones, H M Brown, J Louis Brown, Judkins and the essayist

PRACTICAL NOTES

Ichthyol in Variola —A writer in the *St Petersburg Med Woch* of August 20, extols his remarkable success in variola with 20 per cent ichthyolized collodium, which he had found very effective in herpes zoster

Mentholised Iodol —The addition of 1 per cent menthol to iodol disguises the odor while enhancing the therapeutic effect in nasal and laryngeal troubles —*Klin Therap Woch*, September 25

Helmerich's Salve New Formula —Triturated sulphur 10 gm, potassium carbonate, 5 gm, aq dest, 5 gm, vaselin 40 gm Dissolve the salt in the water, heated, add the sulphur and vaselin and stir in a warm mortar until cold —*Jour de Méd de Paris*, September 18

Dry Bismuth for Burns —This is recommended by Lassar as the most effective of all dressings Bardeleben prepares "bismuth burn badges" which insure a painless and reactionless healing in nearly every case —*Dermatol Ztschft*, iv, 4, in *N Y Med Monatsheft*

White of Egg for Inflammations —Lewith asserts that fresh white of egg applied with the finger soon dries into a protecting and contracting membranous shield under which itching subsides and inflammations heal —*N Y Med Monatsheft*, August

Amyl Nitrate in Post Hemorrhagic Anemia —Bompiani of Rome has obtained remarkable results with inhalations of amyl nitrite in cases of acute anemia consecutive to extensive hemorrhage, and recommends it as superior to the subcutaneous injection of ether in reviving persons in danger of death from hemorrhage —*Journ de Méd de Paris*, September 18

The Sources of Hematuria —Dr David Stuart (London *Lancet*, July 2, 1898) classifies renal diseases with reference to hematuria, as follows 1, traumatismal, *a*, injury, *b*, calculus, 2, passive hyperemia, *a*, pressure on renal veins, *b*, torsion of the same, *c*, reflex spasm of arterioles, 3, inflammatory hyperemia, *a*, nephritis, acute and chronic, *b*, tuberculous disease, *c*, cystic degeneration and hydatids, 4, tumors of the kidneys

Curare in Epilepsy —Inject, every five days, one third of the following solution curare 50 cm , aq dest 5 gm , hydrochloric acid 1 drop Let it stand twenty four hours and filter The injection is not painful, does not produce any reflex symptoms and has never caused the slightest indication of intoxication —*Jour de Méd de Paris*, September 18

Absorbing Power of Potassium Iodid —In cataract operations large doses, 3, 5 to 10 gm a day, must be administered, and the remains of the lens will be rapidly absorbed, rendering a second operation unnecessary In operations for myopia a small discission opening is all that is necessary with the potassium iodid, thus preventing irritation of the uveal tract by masses of lens substance —*Klin Therap Woch* , September 25

Orthoform in Intramuscular Injections —Loeb adds 5 to 10 per cent orthoform to his injections of 10 per cent hydrarg salicylicum and paraffin, and finds that it prevents the local pain from the injections for eight to ten hours He first tested the intramuscular injections of 10 per cent orthoform with paraffin on himself, and established its efficacy and harmlessness The medicinal injections were absorbed as readily as without the orthoform —*Klin Therap Woch* , September 11

Hot Water in Hemorrhage —Hot water injections have been found effective not only in gastric hemorrhage, but hemorrhages from the nose and lungs Two or three injections a day with water at 45 to 50 degrees C , have arrested cases that had resisted all other treatment One is described in the *Klin Therap Woch* of September 18, a woman with commencing tuberculosis, whose severe hemoptysis had persisted for days, but yielded in one day to the injections

Menthol in Anthrax —Braun has found 2 per cent alcohol solutions of menthol very effective in anthrax, curing it in much less time than usual He applies it on a gauze strip, with which he packs the main cavity, after it has been cleaned out with cotton, and covers with an air tight covering and compressing bandage, left for twenty-four to forty eight hours The application is slightly painful at first —*Klin Therap Woch* , September 18

Aseptic Tamponade of the Uterus —A large funnel shaped speculum is introduced into the vagina, and the anterior cervical lip is seized with a pair of ball forceps, provided with a hook on ach side, and drawn down until one hook rests on the edge of he speculum The posterior lip is seized in the same way and ooked on the other blade of the speculum The tamponade hen proceeds as usual , the operator has both hands free, and he gauze does not come in contact with the external genitals, while he can visually inspect the whole process —From Wyder's clinic, Zurich, *Munich Med Woch* , September 20

For Subconjunctival Injections —Take metallic iodin 1 to 2 cgm , potassium iodid 1 gm , boiled distilled water 30 gm Inject 4 or 5 drops of this solution under the bulbar conjunctiva every two or three days increasing progressively to 10 or 15 drops These injections are comparatively very slightly painful, but cause a light transient chemosis The favorable effect of the treatment becomes evident in the course of two or three weeks, as the size of the floating bodies diminishes and the scotoma improves, as does also the central visual acuity, even in cases of macular choroiditis —*Semaine Méd* , September 28

Raising Paralyzed Eyelid —J Hirschberg (*Deutsche Med Woch* , September 28) describes his success with the Birnbacher operation in five cases of pistol shot in the temporal region, causing paralysis of the eyelid on that side, although the sight was retained in some cases No narcosis is required , the upper edge of the superior tarsal is exposed by a perpendicular incision, and three double strong silk threads are passed through it and then under the skin to above the eyebrow, where they are tied tight over drain tubes The free edges of the lids are temporarily sutured together lightly to prevent irritation of the cornea by the lashes In three or four days the eyelid can be raised and closed at will, as the muscular power of the non paralyzed muscles is transmitted to the paralyzed lid

Tests for the Hearing —Ostino asserts that a deficient perception of the spoken letter "S," in comparison with our consonants, indicates otitis of the internal ear, the more decidedly as the formula for the distance of perception of the other letters is inverted If in addition "C" and "G" are also deficient, it indicates that the disturbance is not limited to the scale "do, do," but affects also the middle scale Diminished perception of consonants spoken in a bass tone indicates alterations in the apparatus for the transmission of sounds In affections of the internal ear there are islands of deficient perception limited to one consonant, but in affections of the middle ear, the deficient perception extends contemporaneously to several consonants of varying height and tonality, but all comprised in the lower limits of the tone scale A deficient perception of the letter "F" is an almost constant indication of acute otitis of the middle ear, simple or with effusion, with or without perforation Beyond the maximum limit for the perception of a consonant, it is confounded with another consonant, usually one of the same tone height as the first —*Gazzetta degli Osp e delle Clin* , September 18

Treatment of Pulmonary Gangrene —This treatment is founded on antisepsis (editorial in *Journal de Méd de Paris*, September 18) The patient should be placed in a large room and the air disinfected with phenicated spray To disinfect the lungs, give one of the following potions in teaspoonfuls during the twenty four hours No 1, alcoholatum eucalypti 2 gms, julep with syrup of poppies (julep diacodé) 120 gms Or No 2, Labarraque's solution 4 gms , sodium hyposulphite 4 gms , julep 120 gms Antiseptic inhalations are also useful phenic acid 50 gms , water 950 gms Put in a bottle and inhale the vapors Trousseau recommends essence of turpentin Pour a few teaspoonfuls of the spirits in hot water and inhale Jaccoud recommends for internal antisepsis 50 cgms salicylic acid during the day Tonics of all kinds should be used *larga manu*, with digitalis and caffein when collapse threatens If there are several foci, medical treatment is all that is possible, but if the gangrene is circumscribed and this treatment is ineffectual, pneumotomy and drainage are indicated The part of the lung involved has been resected in some cases with satisfactory results

Sattler's Operation for Myopia —This operation has been performed on thirty patients to date, and has proved more than satisfactory , the operative astigmatism is very slight as a rule , the eye heals much more rapidly than with other methods and without the least inflammation, in nearly every case , and only two interventions are required He first makes an incision 5 to 7 mm in length, perpendicular to the vertical meridian and about 1 5 mm from the edge of the cornea, with a Weber hollow lancet The anterior capsule is then seized with a sharp hook and the lens substance loosened at the equator and from the posterior capsule A Daviel spoon is then pushed a little way into the front chamber, slightly pressing down the upper lip of the wound, while another Daviel spoon is applied to the region of the lower edge of the cornea in a horizontal position with a moderate pressure backward By this maneuver the entire nucleus is evacuated and the process is repeated a second or third time, as long as it brings lens substance without difficulty The iris is then replaced and one drop of atropin instilled The amount of the lens substance thus evacuated amounts to two thirds or even three fourths of the entire lens In some cases this intervention is sufficient, but usually discission of the posterior capsule is required later He has recently applied this same operation to nine cases of lamellar cataract with perfect success —*Klin Therap Woch* , September 18

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE

Per Annum in Advance	$5 00
Foreign Postage	2 00
Single Copies	10 Cents

In requesting change of address give old as well as new location

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THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No 61 Market Street (Occidental Bldgs), Chicago Illinois

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SATURDAY, OCTOBER 29, 1898

AGAIN THE BICYCLE

At more or less regular intervals the medical journals discuss the use and abuse of the bicycle That the latter is a valuable aid as a promoter and restorer to health the active partisanship of the bicycle world will testify, regardless of any and every attack made by physicians Like every other therapeutic resource, it should not be applied indiscriminately to all cases, such a course would soon establish an abuse No one would advise a patient afflicted with organic heart disease to become a professional "scorcher," or to exercise to the extent of a fifty- or a hundred-mile run, any more than he would countenance a hundred-yard dash as a daily exercise, yet we can easily see how an easy ride of five or ten miles or a walk of the same distance would be of great advantage to such a patient Every individual is a law unto himself Where one would look upon a century run as but a pleasant bit of exercise, another, in apparently equal physical health and with the same training, would be incapacitated for several days by such an effort

A number of years ago, before cycling attained its present popularity, medical writers warmly discussed the terrible results this sport would have upon the female pelvis, especially as regards child-bearing The manufacturers quickly took advantage of this state of affairs, and reaped the rewards of their industry in the sale of various patterns of sanitary saddles so-called We are not aware that the obstetricians are having any greater difficulty in delivery than formerly possibly it is due to these very saddles, possibly not The heart was the next to claim the attention of the bicycle enemy We read the dogmatic statements of a medical brother that no one with organic heart disease should ride a wheel, we were impressed with his reasoning and nodded sympathetically as we perused his doughty arguments, and we turned contemplatively the pages of the JOURNAL and were soon absorbed in Professor A 's article on "The Use of the Bicycle in Organic Heart Disease", and perhaps as we glanced out of the window we observed that infatuated Dr B , with his aortic incompetency, wheel smilingly by as he makes his rounds, happily unconscious of his deadly peril And now it is the kidney and it must be confessed that there is evidence of a more tangible character here MUELLER (*Munchener med Woch* , 48, 1896) reports his observations on the urine of twelve cyclists, eight of whom were in training and the remaining four not Their rides were from one and a half to three hours at an average rate of speed Examination before the ride showed the urine free from albumin in all instances save one—a professional Seven of the eight in training showed a marked albuminuria after the ride, six of the eight, including the one whose urine contained no albumin, showed large numbers of casts for the most part of the hyaline variety, and a few white-blood corpuscles. Of the four untrained cyclists, two developed albuminuria and a third the presence of cylindroids after their ride In all these cases these rather alarming symptoms disappeared in a few days, leaving no trace "Leaving no trace," and if there is one thing that pathologists have endeavored to impress upon the profession, it is that a chronic irritation will eventually result in the evolution of new-formed connective tissue, and again that new formed connective tissue in whatever part of the body it may be found, will in time undergo cicatricial contraction, in the kidney this would mean a condition of chronic interstitial nephritis The above cases were taken at random, and probably correctly reflect the urinary phenomena of a large majority of cyclists Your enthusiastic wheelman rides every day that he has a possible excuse for so doing in other words, he produces a condition of chronic congestion in his kidneys that is practically constant for as MUELLER says, several days elapse before the alarming urinary symptoms entirely disappear Is this condition any less dangerous than that chronic congestion produced by the ingestion of alcohol? Surely the decryer of the bicycle would have enough to rave against were he to leave the heart alone and turn his attention solely to the kidneys Nevertheless the bicycle will survive

THE DOCTOR IN THE SCHOOLROOM

In these doleful days of overcrowding and hospitalism it ought to be welcome news that a new field is opening up for our professional activity To the prophetic vision of the Cassandras of both sexes in our ranks—and they are many—the direful prospect has already presented itself of the day when disease having become extinct through the noble but suicidal efforts of the doctor and sanitarian, our occupation, like Othello's, will be gone Any new outlet for our energies will help to either postpone that *dies iræ* or to mitigate its horrors when it does arrive And we wish to seriously call the attention of the profession to the fact that there is opening up before us today in the schoolroom an almost entirely new field of usefulness, one which could profitably absorb the entire energies of one-third of our present membership and whose possible extent and usefulness to the community are alike well-nigh unlimited

Within the past fifteen or twenty years there has come a change in educational ideals and methods which amounts almost to a revelation Up to that time the wheels of the educational machine had been placidly revolving in the comfortable ancient rut of the belief that education was solely a matter of the mind, of the intellect, regardless of the body That this intellect aforesaid could be trained and increased in power and grasp simply by putting it through a divinely-ordained course of stereotyped mental gymnastics The chief problem was how to make the young idea acquire a certain standard number of mind tricks by a certain age All that was required of the body was that it should not interfere with the progress of the course, by breaking down or going to sleep To avoid these undesirable contingencies it had to be considered and even humored a little occasionally, but officially recognized, never It was by nature opposed on principle to the entire process and must be rigidly disciplined with an iron hand to submit to it True, the course of necessity extended over some ten or fifteen years of the child's life, and during that period the body grew and developed in a most remarkable way, but that was a mere coincidence, the mental growth was all due to the scholastic drill Time spent on training the body was simply time wasted, the mind alone was worthy of attention

Now all this is wonderfully changed, although the old error dies hard and still holds much of the field It is becoming recognized that the mind has an inevitable natural tendency to grow and to follow certain laws of development just like the body, that the extent of this development can not be altered or added to by "taking thought" much more than the "stature," that this growth proceeds on absolutely parallel lines with that of the body and for the most part *pari passu* with it that whatever hinders the healthy development of the body hinders or impairs the growth of the mind, whatever promotes the one favors the other

A new science has been added to the teacher's "requirements"—Child-Study The idea has at last dawned that education was made for man and not man for education that the system should be made to fit the child, not the child the system, as hitherto Hence the burning question of the day is, "What is the child?' "What is the natural history of the young human animal?" And the only man in the community at all competent to answer that question is the family physician And even he needs much training before he can safely be accepted as an authority upon the subject He has a good fundamental training, and his knowledge of the subject, both scientific and personal (practical), is fairly extensive, but it needs classifying, systematizing and testing by abundant actual experiment in the schoolroom The relations between the teacher and the doctor have not been at all as intimate as they should be nor the feeling as cordial Both have exhibited too much of that clerical spirit which HUXLEY describes so pithily as "that frame of mind engendered by much speaking without fear of reply" The doctor has been too ready to denounce what he can see to be the hurtful absurdities of the teacher's Chinese worship of ancient method without a proper appreciation of the practical difficulties of the problem of the teacher's position He is between the devil of the doctor and the deep sea of the proud and *exigeant* parent, who raises a "yellow roar" if his young hopeful does not know his seven times seven at eight and his capitals of Europe at nine precisely

Hence we must not be surprised if the teacher resents our criticisms, however well meant, and is inclined to regard us as a sort of perpetual opposition, only too anxious to advise the anxious mother to take her delicate child out of school, when the real cause of the "break down" has been parties and pie

The child is little, physically, but it takes at least four people to understand him, the doctor, the teacher and *both* parents And the time has now fully come when the doctor's contribution to this science should be prepared and made available for use in the great new educational advance The parent has full confidence in us, and the teacher is beginning to lean toward us, though slowly and half reluctantly, and if we but respond as we should, there is opening out before us one of the noblest fields of usefulness to the race that we can conceive of What, then, are the questions upon the solution of which our assistance is beginning to be demanded? They are many and hard and will increase in number and difficulty, but they fall into three great groups The first group concerns the hygiene of study and of the school, the school-room and building itself, the playground, the hours of study, of meals, of recreation The second group concerns the physical fitness of the child for study, his eye sight, hearing, muscle-balance, digestion, sleep, powers of resisting fatigue at different ages, periods and sexes The third relate to the most fundamental and fruitful question of all What is the child, what are his interests, his needs at successive ages, what course does he naturally follow in his development? We are beginning to trust instinct and nature even in the school-room In response to the first group of questions we can return fairly positive answers, for enough careful work upon the problems of school-sanitation has already been done by certain members of our craft to render the principles of the science and art fairly clear and definite But to reduce them to practice in a given building is a problem worthy of our best ingenuity And it is amazing how many of them are utterly disregarded even in our modern buildings Sufficient desk-space for a given number of children in rooms that look fairly light is secured, and then the vital questions of the plumbing, ventilating and heating are solved by letting them to "any reliable" firm making the lowest bid or having the most plausible or persistent representative Perhaps a land-surveyor known as the "city engineer" may be consulted or a busy doctor asked for an off-hand opinion, but usually the united ignorance of the school-board regards itself as fully competent to decide A committee appointed to investigate the public school buildings of one of our most progressive large cities reported over half of them defective and a fourth of them disgraceful There ought to be a physician on every school board and in every town of more than two thousand inhabitants, as school physician, with salary enough to enable him to devote a substantial share of his time to the study and remedy of these conditions Nor is this merely one of the "ought to bes" of the Utopian future In Boston there are already four physicians who, we believe, devote their entire time to this invaluable work and our most prominent educators are declaring that school-hygiene is to be the burning question of the coming quarter century The matter is being taken up in teachers' conventions, " normals " and summer-schools all over the country The conviction has been brought home to teachers by practical experience that to get the best work out of a class of children you must place them under the most favorable hygienic conditions possible They are taught that unless the air be fresh and the room cool, little can be expected of the pupil in the way of either attention or industry The better class of teachers everywhere are, as a rule, keenly alive to the defects of their rooms and eagerly anxious for competent advice and assistance to remedy them A daily visit from and consultation with a medical inspector would be welcomed by them A proper adjustment of window-space to floor, of cubic air-space to each child, of the desks to the direction of the light, of the height, slope and "hang" of the ventilation and heat-supply, would make a wonderful difference in the effectiveness of any building as an educational appliance Then would come the consideration of the play-ground This has grown up hitherto as a sort of accidental adjunct to the school-building and in many cases seems to be regarded as a necessary evil, which may be reduced to its lowest possible terms with impunity All that seems to be considered essential now is enough open space about the building to give it sufficient light, so that its shape and size are those of a narrow "halo" for the former The school house monopolizes two-thirds of the spaces leaving only a tiny plat in front, a narrow strip at the sides and a larger plat behind The lot is bought to fit the building, and whatever ground happens to be left over is turned into a play-ground Now, this is all wrong, for the play ground is as necessary and important a part of a good school as the building The educational and hygienic value of a play-space is enormous For ourselves, if we were compelled to choose between a school-house without any play-ground and a play-ground without any school-house, we would prefer the latter A certain area per child ought to be provided just as much as a certain cubic air-space of house room At least a fourth, if not a third, of the building fund ought to be spent upon the grounds A liberal space ought to be roofed with glass so as to be available in wet or stormy weather But what recognition of its importance do we find? Little or none Not content with reducing it to a mere border around the building and fag end of the lot, we choose the best part of the ground to put the building on We have seen a building containing four hundred children and its only play-ground the rear half of the lot, which sloped so abruptly down into a ravine that neither gravel nor sand would lie on its surface Worse yet, with a positive refinement of idiocy, if the remnant of the lot happens to lie in front of the house it is delicately laid down in turf, planted with ornamental shrubs and decorated with signs, "Keep off the Grass"! which ought to be supplemented by placards, "Go Play in the Gutter"! Grass and geraniums are evidently "of more value than many children "

THE DEPOPULATION OF ONTARIO

The question that has been troubling the French sociologists for the past few years—the low and decreasing birth-rate in their country—is now also becoming a living one with our neighbors over our northern borders, and it would appear with even greater show of reason If a birth rate of only 22 to the 1000 should give concern to the French statesmen and physicians, the still lower one of only 20 7 in the Province of Ontario ought, it would seem, to excite still livelier apprehensions for the future of a country that is thus failing in the very source of power, the production of an active and aggressive population The problem is made the more serious by the reverse condition existing in the adjoining Province of Quebec, where a very high birth-rate has long existed in what some would claim is in many respects an alien and inferior race The result is that, as in some parts of New England, the French Canadian is crowding out the Anglo Saxon in certain regions, and fear is expressed that unless some reversal of present tendencies occurs, all of Eastern Canada will become thus transformed The matter has been the subject of extensive discussion by the Canadian press, has been seriously considered in at least one convention of a prominent religious body, and will, it seems probable, give still more disquiet to the minds of Canadian publicists and patriots before any final satisfactory facts or conclusions are developed

As we have said before in this JOURNAL, the question is more a sociologic than a medical one, and yet it has its medical side, and there are many points of view from which it may be of interest to us as physicians In Ontario the people are, as in France, moderately prosperous, thrifty and forehanded, and in addition to this they annually lose, as in New England, a considerable proportion of their most virile and energetic element by emigration These are exactly the conditions that might be supposed to tend to a restriction of the birth-rate, the conditions favoring the existence of an aggressive proletariat are lacking In Quebec, on the other hand, the latter are directly favored by the influence of the Government and the church, as well as by the racial character and social state of the population, which has not been modified as in France, by military and political changes during the past hundred years In this province we have still the Frenchman of the seventeenth or eighteenth centuries, but living under vastly more favorable conditions, not the French peasant or citizen of today with his burdens of militarism and his non-prolific tendencies

It has been often charged, especially by some social alarmists among the clergy and elsewhere, who support themselves by the statements of a few medical writers, that amongst the Protestant population of the eastern border of our continent certain very reprehensible practices are commonly resorted to to check the increase of families, such as actual criminal abortion and other illegitimate methods That any wholesale charges of this kind are likely to be unjust ought not to require argument A population losing permanently its more vigorous male population by emigration is likely to have its birth-rate reduced When the late marriages, and the enforced spinsterhood of an undue proportion of the female population are also considered, the case is rendered still clearer The French Canadians, on the other hand, emigrate to return or take their women with them, their ideals of living are not so high and they marry early, and are probably not specially influenced by considerations of prudence in such matters, while, as already said, they have the direct encouragement of the provincial government, which, it is stated, offers a bounty for large families, and the active sanction of the church If other proof were wanting of the more direct dependence of the birth-rate upon social and political conditions than upon racial or physiologic peculiarities, the comparison in this regard between the Gallic race in Canada and in its native France at the present time would alone be sufficient There is, it is true a physiologic side to the question, it is well known that high feeding diminishes reproductive capacity in animals, and it is more than merely probable that the same law applies to the human species The more luxurious, or even the more comfortable we make a people in their living or diet, the less their fecundity

There is still another feature of the problem that is worthy of attention in a medical point of view A high birth-rate generally implies also an augmented death-rate, especially in the earlier periods of life This is seen in the slums of our cities, and everywhere by the general practitioner, who finds the greatest infant mortality in the class that is most productive in this respect Were this not the case, the question of population would be a more serious one than it is at present, but the fact implies a great waste of human life It has been calculated that if only one woman in six should do what she was well able to in the way of producing children, the population of the earth could be easily maintained The rest is a simple arithmetical problem—if four, five or six women out of the six are to do likewise, nature must interfere with some provision to keep down population, and this is generally effected to a large extent by increased infant mortality At the present time France, with the lowest birth-rate in Europe, has also the smallest death-rate while in some parts of Russia exactly the reverse conditions prevail

The low Ontario birth-rate, however we may view it, is nevertheless a misfortune to Canada, the greater since, unlike the somewhat similar state of affairs in some of the New England States, the country as a whole does not profit by her emigrants They come over the border very largely, to add to the wealth and population of the United States and, Canada is the loser In any way it can be considered, it is a matter worthy of the close attention of Canadian statesmen and patriots

CEREBRAL TETANUS

Tetanus has always been regarded as a nervous disease, but it is only since the discovery of the tetanus toxin that one could say precisely that the disease is due to a poisoning of certain nervous cells The affinity between nervous cells and tetanic toxin is shown very well in the following experiment of KNORR, inspired by WASSERMANN and TAKAKI[1] The cerebral substance of a guinea-pig is emulsified and mixed with tetanus toxin, and this mixture is then centrifugalized Two layers form at the bottom, the nervous matter, above this an opaque fluid In well-made mixtures it will be found that the fluid thus separated does not contain any poison, which has been fixed to the nervous tissue after the manner of a coloring matter This tangible reaction which occurs in the test-tube also occurs in the organism The tetanus toxin injected subcutaneously in an extremity of a guinea-pig becomes fixed by the cells of the spinal cord after a certain time when characteristic contractions appear, part of the poison reaching the cord by way of the nerves, another part by way of the circulating blood

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[1] Münich med Wochenschrift, 1898, No 12

This specific affinity of nervous elements for the toxin is also shown when one injects the toxin into the brain of a rabbit In this way is produced a characteristic disease, namely, cerebral tetanus, which has recently been studied by ROUX and BORREL [2] This fact alone overthrows the opinion of WASSERMANN,[3] that there exists an antitoxin in the normal brain The poison adheres so strongly to the nervous material with which it is mechanically mixed, that when introduced into the subcutaneous tissue of animals it is not diffused, but is taken up and digested by phagocytes

The immediate fixation of tetanus toxin by nerve-cells renders it possible to limit the action of the toxin to certain groups of cells Thus when toxin is injected into the brain of the rabbit or the guinea-pig, there develops as shown by ROUX and BORREL, a disease characterized by intermittent convulsions, motor paralysis and polyuria, together with characteristic psychic disturbances The injection of five times as much sterilized water or physiologic salt solution in the same manner as a small amount of toxin does not produce any symptoms, hence the results can not be ascribed to mechanic injury

Eight to twelve hours after the injection the animal becomes restless, turns its head from side to side, runs around in the cage Abundant urine is secreted epileptiform convulsions come on, either simultaneously or on slight excitation The animal grinds its teeth and the wires of the cage, at the same time the hind legs may become paretic Intermissions in these symptoms often occur One-tenth c c may kill the animal in from twelve to twenty hours, smaller doses give rise to an affection lasting from three to eight or more days still smaller doses of toxin cause a tetanic affection, with emaciation, from which recovery may take place It is possible to inject the toxin into various parts of the brain with marked differences in the symptoms produced, and thus there is furnished a novel method of studying the functions of the various regions of the brain that may be of interest from a physiologic standpoint

The rabbit is much more resistant to tetanus toxin when it is introduced under the skin into the blood than when it is introduced into the brain The guinea-pig resists the intracerebral injection somewhat better than the rabbit, but the cerebral tetanus of the guinea-pig is as characteristic as that of the rabbit In the rat the symptoms of cerebral tetanus are markedly psychic The animal appears to be subjected to sudden attacks of great fear, and frequently it acts as though it were under the influence of certain delusions or hallucinations

An animal which receives antitetanic serum acquires a so-called passive immunity and withstands many times the fatal dose of tetanus ROUX and BORREL made the following experiments They injected large doses of antitetanic serum subcutaneously into rabbits Twenty four hours afterward 1 c c of tetanic toxin was injected into the brain, and all the animals died with typic cerebral symptoms in from forty-eight hours to six days later And yet the blood of these animals contained antitoxins One drop of the blood of an immunized rabbit mixed with the tetanus poison rendered the mixture inoffensive, when introduced into the brain of a new rabbit The extravasation of a small amount of blood during the intracerebral injections of immunized animals may neutralize the toxin and prevent the appearance of cerebral tetanus In guinea-pigs, therefore, similar experiments often failed to produce the desired result, because their brain is more vascular than that of the rabbit and less susceptible to the tetanus toxin

All these facts can also be demonstrated to be true as to the diphtheria toxin, which is more rapidly fatal when inserted into the brain than under the skin Immunized animals resisting enormous doses of toxin given subcutaneously perish when a small quantity is introduced into the brain The symptoms are more exclusively nervous, and at the autopsy one does not find any of the characteristic lesions of diphtheria intoxication, as for instance, congestion of the suprarenal capsules, because all the other organs have been protected by the antitoxin except the nerve cells Hence it is very evident that the nerve-cells have not the same affinity by any means for the antitoxin as for the toxin This is probably the reason why, in the prevention of tetanus, antitoxin serum so often fails, because when the antitoxin is used a part of the toxin has already become fixed to the nerve cells The antitoxin may neutralize the poison which is still circulating, but does not reach that which is fixed by the cells of the brain or spinal cord

Further experiments by ROUX and BORREL show that a few drops of antitetanic serum injected into the brain have a much better effect in tetanus of animals than large quantities of antitoxin introduced into the blood or under the skin Intracerebral injection does not save all the tetanized animals It must be injected before a certain length of time has elapsed after the poisoning Before recommending this method of administering antitoxin in human tetanus ROUX and BORREL insist that it will be necessary to extend the experiments to various species of animals, because it may be that in the horse and sheep for instance, as well as in man, the results

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Annales de l Institut Pasteur 1898 No 4

[3] Berlin klin Wochenschrift 1898 No 1

would be different from those observed in guinea-pigs and rabbits

As already stated, rabbits and guinea-pigs passively immunized suffer from cerebral tetanus when the toxin is injected into the brain The question arises *Is this also the case in animals whose immunity is active?* This question is very pertinent, because many observers have advanced the opinion that antitoxin is elaborated by the cells which are susceptible to the toxin, that each symptom which is influenced by the toxin responds by producing antitoxin Two rabbits immunized against tetanus, and possessing an antitoxic serum, were found to be insusceptible to subcutaneous injection of 12 c c of tetanus toxin, which was fatal in a dose of 2 c c in the case of a susceptible rabbit One-tenth c c of toxin was introduced into the brain of the immune rabbits at the same time as into a normal control animal On the following day all the rabbits presented signs of cerebral tetanus The control animal died during the course of the day, the immunized animals died with typic symptoms, one after seventeen days, the other after twenty days These experiments demonstrate that the nerve-cells of an actively immune rabbit are sensitive to the toxin and that it becomes very difficult to understand how these nerve cells could prepare an antitoxin It would appear, on the other hand, as if during the course of the immunization the nerve-cells had *never come into contact* with the toxin

Certain animals are naturally immune to various microbic toxins The rat, for instance, does not suffer from a dose of diphtheria poison which is sufficient to kill several rabbits One tenth c c of diphtheria toxin was injected into the brain substance of a rat, and death followed on the third day, hence the brain of the rat is also sensitive to the poison, and as it does not die when large quantities of toxin are injected subcutaneously, it follows that the poison does not then reach the brain but is arrested in some part of the body The natural immunity of the rat does not depend upon the resistance of the nerve cells against diphtheria, but upon some other property of the body Roux and Borrel showed that similar facts obtained with regard to the rabbit as to morphin, toward which this animal is looked upon as being insusceptible In other words, the nerve-cells of the rabbit are not insensitive to morphin

All the facts go to show that in acquired as well as in *natural immunity against certain poisons*, the immunity does not depend upon insusceptibilty of the nerve cells, at least not of those of the brain The poisons are retained by other cells, which exercise a protective rôle and probably manufacture antitoxins Roux and Borrel ask *Where are those cells?* and answer that perhaps phagocytic cells are capable of also destroying the poisons produced by microbes They are not ready to insist upon this, but it would seem to them that the questions of immunity against the microbes and of immunity against the toxins will ultimately receive similar solutions

CREOSOTE NOT A SPECIFIC

The drug, creosote, has become so inseparably connected in history, in clinical experience, and in present day teachings, with the disease of pulmonary tuberculosis, that its acceptance as a specific becomes a natural consequence Such empiricism, however, is fatal to the scientific treatment of tuberculosis even though creosote does seem to be indicated in every case Creosote probably exercises its curative action in the lung because of its physiologic property of stimulating the bronchial mucosa, where it is eliminated, and its action as an expectorant, not as a specific for the disease of tuberculosis

The healthy human body is not susceptible to infection by the germs of tuberculosis because a vital resistance of the tissues prevents the development of any bacteria that may gain entrance, and those bacteria that develop in a lung to cause a miliary tuberculosis, do so because—from malnutrition, lack of exercise, the inhalation of sewer gas or dust particles, an ordinary cold or a previous attack of pneumonia—the lung tissues possess a diminished resistance and afford a suitable soil for their development A diminished resistance is probably present in the bronchial mucosa, *of which there is a vast expanse in the lung*, and when an infection is once established at a given point it is clear that the adjacent mucosa will afford slight hindrance to an extension of the tubercular process *The object of our treatment should be to* raise the vital resistance of these adjacent cells of the bronchial mucosa, in order that they may resist an extension of the disease and thus limit the tubercular inflammation to a single spot, which should mean an eradication of the disease Creosote *does* improve the resisting power of each cell, because it stimulates it to a more perfect metabolism, and if to this favorable condition there are added an abundance of good food to supply these cells with nourishment, and plenty of fresh air to supply the blood with good red oxyhemoglobin that may further assist their metabolic processes, the patient is placed under the best conditions for recovery The creosote, it will be observed, does not exercise an antibacillary action, nor does it even diminish the virulence of the tubercle bacillus, but as a treatment for tuberculosis it is the most satisfactory agent that we know, since it succeeds in establishing a condition of health in the mucosa that will help nature to overcome the disease

CORRESPONDENCE

The Jugglery of Statistics A Reply to an Absurd Editorial

Washington, D C, Oct 22, 1898

To the Editor —I desire to invite attention to the editorial comment in the *Philadelphia Medical Journal* of Oct 15, 1898, under the caption "The One Fact the Whitewashing Committee Must Explain" I would not have troubled you with this communication but that I have regarded the said *journal* as a paper of value and of increasing importance whose editorial utterances should have weight The article to which I take exception as unworthy of the columns in which it appeared, presents to its readers the large ratio of deaths from disease in the Spanish War, as the one fact to be explained, "the crux of the entire discussion," and manifestly elated with his discovery, the editorial writer exclaims in a burst of triumph "Explain us that right thoroughly and without equivocation, Honorable Sirs," etc This exuberance of diction from the editorial pen manifests that the writer sent his manuscript to the printer while dazzled by the brilliance of his discovery and without giving it that careful consideration which is needful for the reputation of the editorial columns I am constrained to look upon this as the explanation of the article Doctors are generally credited with being weak on figures, and my experience shows that they are not strong in questions of ratios, making honorable exception in this regard of the health officers who deal systematically with medical statistics I must charitably suppose that the writer in question participates in the general professional failing because I am unwilling to believe that he knowingly presented figures which did not sustain his conclusions, trusting that the latter would be accepted by readers who were unfamiliar with his arithemetical premises These premises are that There were killed in the War of the Rebellion 46,874, died of wounds 39,715, died of disease 172,907, and in the recent war killed 289, died of wounds 65 and died of disease 2565 These figures are official, and I have no exception to take to them But he continues "If we reduce these figures to percentages based on the best estimates of the numbers of soldiers participating, and place figures side by side we find

' Causes of Deaths	Civil War	Spanish War
Killed	18 1%	9 6%
Died of Wounds	15 3%	2 3%
Died of Disease	66 6%	88 1% "

Now in the calculation of these ratios no consideration is given, as claimed by the editorial, to "the best estimates of soldiers participating" nor, I may add, to the relative duration of the two wars. They express merely the relative proportion of deaths from battle casualties and disease in the constitution of the total mortality Yet from these data the editorial writer, knowingly or unknowingly, concludes that the 88 1 per cent of deaths from disease in the Spanish War, as compared with the 66 6 per cent in the Civil War is a point of the highest importance "There can be no possible question" he says "that the general mortality from disease has been greatly and indubitably lessened in the last thirty three years If so, of course the percentage mortality from disease in the Spanish War should be decidedly lower than in the war of the Rebellion Instead of this it has been decidedly higher," and the members of the Presidential Investigating Commission are called upon to take note that the medical profession regards the cause of this as the main thing that is before them for explanation

The absurdity of this may be well illustrated by adding to the statistics and ratios given above those derived from the reports of the engagement of Admiral Dewey's fleet on May 1, 1898, at Manila Dewey's fight lasted only one day The figures given for the Spanish War covered a period of five months and those for the Civil War a period of five years and two months, but as the element of time does not enter into the *calculations of the ratios criticised* this element need not be considered in the engagement at Manila Here we find that no man was killed, no man died of wounds received, but that one man, an engineer officer, succumbed to heat exhaustion or insolation Stating these figures as percentages of the total mortality we find killed 0 per cent. died of wounds 0 per cent, died of disease 100 per cent, as compared with 88 1 per cent in the Spanish War and with 66 6 per cent in the War of the Rebellion If it is needful for the Honorable Sirs to give such high consideration to the greater death rate from disease as compared with the deaths from wounds and deaths on the battle field in the Spanish War considered as a whole, how serious is the consideration they ought to give to this frightful rate of mortality from disease as compared with that from battle casualties in the Bay of Manila

It was my intention in beginning this letter to state the conclusions that are really admissible from the figures and ratios presented by the *Philadelphia Medical Journal*, but the pressure of current work at this time is very great, and I conceive that I have effected my purpose by directing attention to the unsubstantial basis on which the argument of the editorial writer was constructed

Repectfully yours, CHAS SMART,
Deputy Surgeon General, U S Army

Twins with Complications

LAUREL, IOWA, Oct 18, 1898

To the Editor —October 2 I was called to attend Mrs R in confinement and found myself confronted with a number of unpleasant conditions, not the least of which was a morbid fear on my patient's part that she would not be able to give birth to her child, or children as proved to be the case, she having been told at her previous confinement, about a year ago, when she gave birth to triplets, all still born, that she would not live through another confinement She was a German woman, large and strongly built, about 40 years of age and had given birth to five children, the oldest 14 years of age She said she had suffered a great deal at all her previous confinements and that they had been slow, lasting from twenty-four to forty eight hours She complained of being "deathly sick" and felt as if she was going to vomit

From the size and shape of the abdomen, I concluded I had a case of multple pregnancy, but the sound of but one fetal heart could be heard on auscultation Digital examination revealed an irregularly contracted vagina, due, no doubt, to the healing of her previous lacerations The os, however, was fully dilated, and I found a foot protruding, which as a strong pain now came on, I grasped, making slight traction and with some manipulation succeeded in bringing down the other foot During the next pain the body was born and the head, with chin to the front, was engaged in the superior strait Now, when good pains were most needed, the patient "gave up" and wished me to leave her to die, as she had been told that she must Finally, after a delay (which proved fatal to the child) she was delivered of a large girl weighing eight pounds Another child could be outlined high up in the fundus uteri, and digital examination showed a "cone shaped" bag of water through the os The fetal parts could not be made out The patient gave up entirely, and I let her rest an hour and a half, when, as the pains did not come on, I gave her 15 m fl ext ergot and in a short time they again became quite strong and regular Another digital examination showed that the child was not presenting, hindered, I think by the low attachment of the placenta But by making slight downward pressure from above during a pain, I finally succeeded in getting the parts to engage The sac, which was very dense, had to be ruptured, when an unusually large amount of the liquor amnii came away and I found a foot protruding almost exactly as did the first one The child, a boy, also weighed eight pounds and was alive, but minus the penis Where the penis should have been there was a slight elevation about one eighth of an inch above the surface, with an opening at the apex, through which the child urinates The placenta, which was delivered in about thirty minutes, also seemed to share in the general anomalous condition It consisted of two distinct placentæ, seemingly enveloped in a common sac They were connected at their sides by a strong fibrous band and each had a circulation of its own, there being no anastomosis of blood vessels between them I report this case because of its many bad features and of its comparatively happy ending, as at this writing the mother and baby are doing well I hope it may be of interest to at least some of the readers of the JOURNAL, who, like myself, have not practiced long enough to become familiar with this class of cases and patients

Respectfully L W PENCE, M D

ASSOCIATION NEWS

To Commemorate Joseph O'Dwyer's Name—At the meeting of the Section on Diseases of Children of the AMERICAN MEDICAL ASSOCIATION held at Denver, Colo, June 7-10, 1898, it was moved and carried unanimously that a Memorial Committee be appointed to commemorate the late Joseph O'Dwyer, with suitable powers etc, to collect such moneys and to act with other bodies for the same purpose The committee is composed of the following Dr Louis Fischer, New York, chairman, Dr J P Crozer Griffith, Philadelphia, and Dr F E Waxham, Chicago

SOCIETY NEWS

Tri State Medical Association—The Tri State Medical Association of Mississippi, Arkansas and Tennessee, meets in Memphis, Dec 20-22, 1898 Physicians attending this meeting are promised a pleasant and profitable time in the "Queen City of the Mississippi Valley" Titles of papers should be sent to Dr Richmond McKinney, secretary, Continental Building, Memphis, Tenn

Utah State Medical Society—At the recent meeting of this Society the following were chosen officers for the ensuing year President, C M Wilson of Park City, vice president, Ira A E Lyons of Salt Lake, second vice president, J W Aird of Heber City, secretary, R W Fisher of Salt Lake, treasurer E S Wright of Salt Lake, board of censors, G M Perkins of Ogden, W W Betts of Salt Lake, G L Smart of Springville, H J Powers of Ogden A J Hosmer of Salt Lake

Cumberland County (N J) Medical Society—This society held its semi annual meeting at Hotel Cumberland, October 11, with the president, Dr , A Judson of Newport, in the chair A paper on 'Peritonitis" was read by Dr Hummel of Deerfield Dr Charles P Noble of Philadelphia read a very interesting and instructive paper on "Conservatism in Gynecology" The society unanimously voted to celebrate its eightieth anniversary on Dec 8, 1898

Mississippi Valley Medical Association—The following officers were elected at the recent meeting President, Duncan Eve, Nashville, Tenn, first vice president, A J Ochsner, Chicago, second vice president, J C Morfit, St Louis, secretary, *Henry E Tuley, Louisville, Ky (111 W Ky St), treasurer,* Dudley S Reynolds, Louisville, chairman of committee of arrangements, Harold N Moyer, Chicago Chicago was selected as the next place of meeting, in October, 1899, the date to be determined by the executive officers and the chairman of the committee of arrangements

Washington, D C, Medical Society—At the meeting of the 19th inst Dr Sterling Ruffin presented the specimen and gave the history of a very interesting case of aneurysm of the aorta, which involved the entire arch, but did not give the symptoms of pulsation during life, the other usual symptoms, however, were well marked, the patient eventually dying of inanition, The subject was discussed by Dr Claytor, who referred to the latest points of diagnosis, calling especial attention to the frequent mistake of considering the presystolic murmur associated with that form of aneurysm as being of valvular heart origin, and the subsequent injudicious treatment with digitalis He referred to similar cases occurring in his own practice Dr Storch read an essay entitled "Function of the Appendix Vermiformis" The principal function which he assigned for this organ was that of a lubricant to the caput coli He considered constipation, and not obstruction by intestinal contents, the cause of appendicitis, he considered the appendix a necessary organ and its function an important one Dr D S Lamb did not agree with Dr Storch, but believed the appendix had no physiologic function He regarded the organ as a degeneration of a formerly existing diverticulum from the intestines, and being a degeneration was prone to disease He considered the only function the organ possessed was that of inducing disease and death He went into the morphology of the appendix, calling attention to its existence in certain animals and absence in others, and explained the evolution, anatomically, which appeared to explain its origin The discussion was continued in a very interesting and instructive way by Drs A F A King, Stone and J Ford Thompson

Detroit Academy of Medicine—The annual meeting of the Detroit Academy of Medicine was held October 13, and the following officers elected for the current year President, F W Robbins, vice president, Geo Duffield, secretary and treasurer, H D Jenks, trustee, J E Emerson Reports from retiring officials showed the society to be in a flourishing condition The annual address was given by the retiring president, Dr David Inglis, on "Social Factors of Today and the Future of the Medical Profession" He said that for weal or woe the steady trend of modern life is toward socialism Socialism as distinguished from individualism has already affected the medical profession in the matter of the license to practice being restricted to qualified practitioners There can be no doubt that all thoughtful medical men favor State examining and licensing boards Michigan is an unfortunate example of pure individualism in this matter Socialism, as exemplified in the change from competition to combination, is at the bottom of the steady extension of hospitals, dispensaries, railway and other contract surgeons and physicians Like the trust and department store, these phases of combination are probably permanent Socialism as exemplified in the concentration of wealth seriously affects medical incomes If, as the *Iron Age* puts it, "Prosperity has returned, but it is prosperity based on a permanently lowered rate of wages," medical incomes must also be permanently lowered Finally, as it seems likely that the way out of combination of capital for private gain will be found in the combination of capital for the public weal, the full establishment of a commonwealth, so medical men will find under the socialism so evolved an opportunity to pursue scientific medicine unhampered by the present overpowering commercialism After the regular meeting Dr and Mrs Inglis entertained the members and their wives

NEW INSTRUMENTS

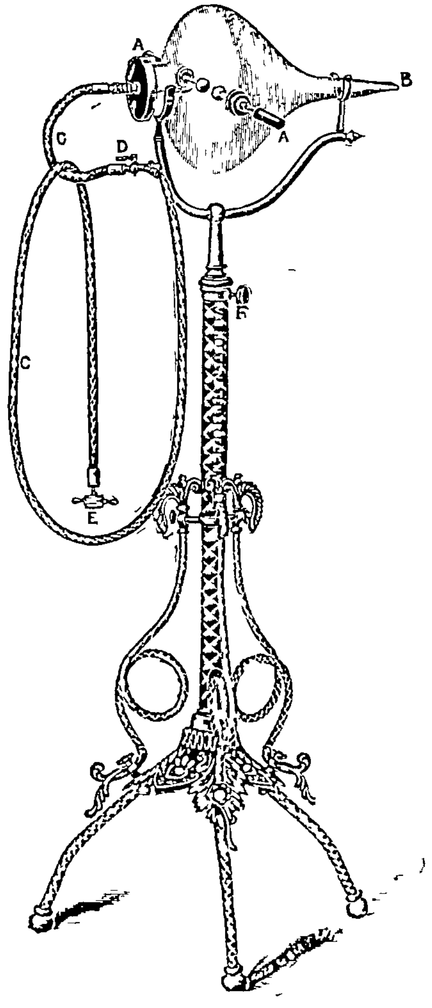
A SCIENTIFIC OZONE INHALER

BY CYRUS EDSON, M D
NEW YORK CITY

In describing this new instrument, which I have devised for the purpose set forth in the foregoing title, the adjective "scientific" has been used in order to distinguish the apparatus from the numerous so called "ozone inhalers" with which physicians and the laity are confronted in advertising columns and on every hand—nostrums which develop so little ozone that chemic means have never been able to detect it In point of fact, the word "ozone" has been so abused by misuse in connection with inhalers that it has come to mean something physicians view askance This ozone inhaler was suggested to me by a conversation with a medical friend who told me of a series of cases of phthisis pulmonalis treated by him that were greatly benefited by inhalations of ozonized air These patients had been made to inhale the air acted on by the discharge between the poles of a static machine

The familiarity of physicians with the properties of ozone makes it quite unnecessary for me to enter upon a dissertation respecting the antiseptic and disinfectant qualities of ozone It may be well, however, to point out the fact that the beneficial effect of climatic change to regions abounding in pine forests in cases of respiratory diseases due to germ infection, is generally ascribed to the presence of ozone in the air of such localities in greater amount than elsewhere

The ozone inhaler is well shown in the accompanying cut Two terminals or poles (A A) are passed into a glass receiver, about a foot wide in its greatest diameter, through holes bored in the glass for this purpose These poles are so constructed as to be separated or approximated at the will of the operator and are connected with the poles of a static machine by means of insulated wire, just as the Crooke's tube for X ray work is connected One wire carries the current from the positive and the other from the negative pole of the machine An apparatus capable of throwing at least a six inch spark is best adapted for the purpose The glass receiver has two large openings, one of which is terminated in a mouthpiece (B), while the other is connected by means of rubber tubing (C) with an air tank containing air under pressure The rubber tubing is furnished with a stopcock (D) for the purpose of regulating the supply of air The inhaler may, however, be used without this air supply When used with it, the stream of air enters the apparatus in such a way as to pass directly between the poles or terminals inside the receiver, and thence on through the mouthpiece, to be breathed by the patient When in operation, the current is seen passing through the space between the two terminals in the form of a silent discharge spray or a stream of sparks, depending on the separation or approximation of the poles The amount of ozone developed is directly under control of the operator The silent discharge when the poles are widely separated effects the development of the maximum amount of ozone, while the amount lessens as the poles are approximated The ozone admixture may be further controlled by regulating the air supply from the air tank to the receiver The amount taken by the patient may be still further graduated by having him inhale the stream of ozonized air as it issues from the mouthpiece, his face being at a greater or less distance from it, or by having him apply his lips to the mouthpiece, thereby drawing the admixture of air and ozone directly into the respiratory tract



In using ozone as a remedial means in the great quantity capable of being furnished by this apparatus, we must bear in mind that it is an exceedingly powerful and active agent, having stronger affinities than oxygen, rapidly destroying all forms of bacterial life In comparatively weak admixture with air, it is very irritating, and should be inhaled with caution The strength of the ozonized air should be carefully regulated to suit each case or violent coughing and strangling will follow its respiration With a little care, however, commencing with a very weak admixture and increasing its strength gradually until very slight irritation is apparent, then decreasing a little to the point of tolerance, it can be safely administered Its beneficial effects are almost immediate Cough and expectoration are rapidly diminished and a marked general improvement follows

I have noted also that the appetite of persons in health to whom the inhalations were given for experimental purposes, was increased, the action of the heart became stronger the face flushed, and the effects noted after administration of oxygen were apparent It is too early yet to report cases upon which this treatment has thus far been tried Suffice it to say that I have used it both alone and as an adjuvant to other treatment in a number of cases of phthisis and of bronchial catarrh, and am more than pleased with the results I hasten to give the ozone inhaler to the profession, well knowing that it will appreciate the device to be valuable, since its operation and application are founded upon sound principles

Before closing, I would add that I have modified the apparatus so as to apply a similar device to the purpose of furnishing quantities of ozonized air to hospital wards, dwellings, theaters, etc The object of this is to revivify the atmosphere of such places I believe it of importance that the air in wards of contagious disease hospitals be kept fresh by this means Benefit to the patients suffering from diphtheria and other contagious diseases must necessarily follow, if not directly from remedial effect of ozone operating as a bactericide, at least as a result of improvement of the air supply furnished for breathing

As in the case of the inhaler, the ozone admixture can be regulated and supplied in any effective strength, while the cost of application in this electric age will be inconsiderable after the apparatus has been once introduced

Messrs Van Houten & Ten Broeck of 300 Fourth Avenue, New York City, have constructed the inhaling apparatus after my designs, and caused the cut shown here to be made

20 West Forty eighth Street

RAMAUGE S NEW INTESTINAL COUPLER

A Ramauge of Buenos Ayres again presents a device for an improved button (*Semana* [illegible] *a*, S[illegible] r 1) A cylindric tube 2 c m long by [illegible] each end with a circular rim project[illegible] total diameter of the button 3 [illegible] the centre of the tube sh[illegible] the outer edges of the rims are much nearer together than the part close to the tube, thus forming a couple of partly enclosed canals encircling the tube, while the surface of the tube is left exposed between them This exposed space is studded with small holes These partly enclosed canals are packed with compressed sponge forming a couple of sponge rings around the tube held in place by the overarching rim at each end Some water is then introduced into the two ends of the intestines and a draw thread run around each edge The button is then inserted and the threads drawn tight, thus fastening the intestine around the free space in the center of the tube The water is then made to flow down to the spot and as it finds its way through the small holes the sponge begins to swell and gradually compresses the two ends of the intestine together, above the threads, until they become consolidated in the peripheral line of the serous surfaces in contact, while the central part will slough away and release the button No actual tests of the button had been made at the time of his communication

NECROLOGY

C S Arthur, M D , Portland, Ind , October 17 ——John H Benedict, M D , Danbury, Conn ——William Bigham, M D , Seville, Ohio, October 13 ——N T Bornar, M D , Gainesville, Texas, October 9 ——Henry M Boyers, M D , Grafton, W Va , October 14, aged 27 years ——Samuel Creadrick, M D , Philadelphia, October 19, aged 57 years ——D H Dickinson, M D , Topeka, Kan , October 18 ——Richard Dingee, M D , Newportville, Pa , Jefferson Medical College, 1860, aged 70 years ——John B Fares, M D , Romeo, Mich , Rush Medical College, 1884, October 14, aged 69 years ——Henry Geiger, M D , University of Heidelberg, 1861, October 15 ——Hezekiah Gilbert Leigh, M D , Petersburg, Va , October 17, aged 65 years ——Charles McCulloch, M D , Albany, N Y , 1877, October 15, at Gloversville, N Y , aged 50 years ——G W Mills, M D , Sedalia, Mo , October 16, aged 46 years ——W N Plank, M D , Deer Creek, Ind , October 11, aged 45 years ——Peter A Rivard, M D , Rochester, N Y , October 19, aged 46 years ——John Garson Stuart, M D , Fortville, Ind , October 11, aged 73 years ——W E Swanston, M D , Devil's Lake, N D , October 14 ——R M Wigginton, M D , Waukesha, Wis , October 16, aged 60 years

Deaths Abroad —Max Wiener, professor of obstetrics at Breslau ——Karl von Mettenheimer of Schwerin

Donald A Taylor, M D , acting assistant surgeon at Fort McPherson, died of peritonitis, October 15, aged 25 years The Doctor was a graduate of the University of Virginia At a meeting of the medical staff of the United States General Hospital at Fort McPherson, Ga , held on Oct 16, 1898, the following resolutions were adopted

Whereas, It has been our sorrow to lose from our midst our friend and colleague, Dr Donald A Taylor, Acting Assistant Surgeon, U S A , and,

Whereas, His premature death has been in consequence of disease contracted in the faithful performance of his duties,

Resolved, That we, the members of the medical staff of the United States General Hospital, Fort McPherson, Ga , do hereby express our esteem of our late friend and colleague, and our regret for his sudden loss

Resolved, That a copy of these resolutions be sent to the family of our deceased colleague, in expression of our heartfelt sympathy with them in their bereavement, and further be it

Resolved, That copies of these resolutions be furnished to the following journals for publication The *Army and Navy Register*, The *Army and Navy Journal*, The Journal of the American Medical Association, The *Atlanta Constitution*

[Signed] For the staff Wallace Neff,
Major and Brigade Surgeon, U S V
Charles E B Flagg,
Captain and Assistant Surgeon, U S A
J C Garlington,
Acting Assistant Surgeon, U S A

PUBLIC HEALTH

Toxicity of Woman s Milk with Diphtheria —The *Arch Clin de Bordeaux* for August reports a case of severe diphtheria not treated with serum, in which tests of the milk even late into convalescence proved that it was toxic for guinea pigs, hence would have proved toxic for her infant had she been allowed to nurse it

Governmental Research on Malaria —The London *Lancet* announces that a commission for investigating the various questions associated with malaria, which has been appointed by the Colonial Office and the Royal Society, consists of the following members Dr C W Daniels of British Guiana, Dr S R Christophers of University College, Liverpool, and Dr J W W Stephens, John Lucas Walker student in Pathology in the University of Cambridge Drs Christophers and Stephens will proceed almost immediately to Pavia to work in the laboratory of Professor Golgi and thence to Rome to work in Professor Cetti's laboratory The Commission will eventually proceed to Africa, when its first work will in all probability be to determine the clinical varieties of malarial fevers occurring there

Sodium Sulphocarbolate in Scarlet Fever —J J Gonzales describes (*Cronica Médica Mexicana*, October 1), his success in preventing contagion of the other children in a family when one child was infected with scarlet fever during a recent severe epidemic The isolation was very incomplete, if attempted at all His dose was 30 cgm a day for children under 3 years of age, 50 cgm for children from 3 to 10 and from this to 1 gm for older persons, administering it for more than a month and thus entirely preventing contagion in seventeen families and a hospital, protecting 139 other children exposed Two cases of contagion occurred, one showing evidences of the disease a few hours after commencing the sulphocarbolate, and the other having refused to take it at all It was tolerated perfectly in every case with no after effects of any kind

Yellow Fever —The dispatches since our last report (vide Journal, p 998), are as follows October 18, New Orleans, 2 new cases and 1 death, Wilson, 4 new cases, Franklin, 1, Jackson, Miss , 4 and 1 death, Yazoo City, 4, Waveland, 1, Madison, 2, Hattiesburg, 2 and 1 death, Poplarville, 6 new cases, Starkville, 1, Edwards, 5, Natchez, 3, Orwood, 4, Harriston, 2 Frost throughout the fever belt gave promise of a decrease in the fever, but October 19 Jackson reported 6 new cases, Natchez, 4, Madison, 5, Canton, two suspicious cases, Hattiesburg, 2 new cases and 1 death, Oxford, 4 new cases Quarantine restrictions in Northern Alabama were removed on this date On October 20, but 1 new case was reported at Jackson, Miss , 3 and 1 death at Yazoo City, 2 and 1 death at Hattiesburg, 1 at Harriston, 1 death at Warren, Ohio, 3 new cases and 3 deaths at New Orleans October 22 dispatches reported frosts through the infected districts generally, while quarantine in Mississippi was removed All traffic restrictions being removed in Louisiana trains began running regularly October 24

Sero diagnosis of Leprosy —Professor Spronck of Utrecht announces that Hansen's bacillus can be cultivated on glycerinated and neutralized potato (10 days, 38 degrees C) and continues to flourish transferred to Loeffler's gelatinized horse serum or, even better, simple fish bouillon (cod or turbot) Artificial culture produces a modified form of the lepra bacillus, resembling more the diphtheria and pseudo diphtheria acilli than the Koch bacillus It is not pathogenic for animals It is very seldom that the serum of a non leprous person will cause agglutination even at 1 in 30 to 1 in 40, but in every one of the twelve cases of leprosy he examined, agglutination was produced with 1 in 60 to 1 in 1000, except in three cases of anesthetic leprosy dating from fifteen to thirty two years, which required 1 in 20 to 1 in 40 The leprous serum will retain its agglutinating power six weeks if 1 per cent phenicated bouillon is added and air and light kept out Dried, it retains the agglutinating power a month at least Living recent cultures must be used for the sero diagnosis — *Semaine Méd* , September 28

Malt Soup for Infants —The Breslau University children's clinic has long been investigating to discover a food adapted to cases with gastro intestinal disease, and reports in the *Deutsche Med Woch* of September 28 the extremely satisfactory results attained with a food made of 50 grams wheat flour stirred in one third of a liter of cow's milk, and worked through a sieve In another bowl 100 grams malt extract are dissolved in two thirds of a liter water at 50 degrees C , and to this is added 10 c c of an 11 per cent solution of potassium carbonate The malt extract mixture is then stirred into the flour milk and the whole cooked together A table of the gain in weight in 28 cases is appended (all less than six months old), which averages very high under the circumstances, 43 grams a day in one case, fed on the malt soup 31 days None of the children had severe rachitis afterward The article concludes with an appeal for more children's hospitals, as the benefits to infants of scientific treatment and diet far outbalance the burden of the extra responsibility they would entail

The Plague in Vienna —The press dispatches of the 23d announce that the plague situation in Vienna continues extremely critical, the death of Dr Mueller, on this date, adding to the already great alarm that the city will not escape the plague Dr Mueller attended Herr Barisch, the surgical assistant at Professor Nothnagle's bacteriologic establishment, who died on Tuesday Great precautions have been taken to prevent infection from the dead and sick Dr Mueller recently returned from Bombay, where he studied the plague and brought with him some of the bacilli He cultivated the bacilli and Professor Nothnagle and he have been experimenting with them on lower animals with a view to obtaining a serum with which to inoculate against the plague The man Barisch was a servant in the laboratory, which he kept clean He also fed the dogs, cats, rabbits, and guinea pigs on which Professor Nothnagle experimented with the plague bacilli When Barisch was taken ill he was removed to the Vienna General Hospital, where the physicians, learning his last and dangerous occupation, isolated him Dr Mueller then attended Barisch When Barisch died a bacteriologic examination proved him a victim to the dread disease

Prevention of Epilepsy —Children react with convulsions to so many slight causes gastro intestinal disorders, fright, etc , that they are always standing on an inclined plane as far as these reflex phenomena are concerned, and each attack progressively increases the danger of epilepsy by lowering the "threshold of the neuron" Max Breitung of Cologne asserts that epilepsy should never be allowed to develop, and that the physician of the future will devote much energy to switching off to another track any child that shows the slightest hereditary or acquired tendency to convulsive attacks This can be accomplished by wise supervision, dietetic and physical measures and moral training at home and in school, avoiding any disturbance of the nervous system, keeping up the reserve of nerve strength and toning up the neurons so that they will subside rapidly into repose after an excitation As "dietetics of stimulations," he mentions mild electric baths, massage, tepid douches, etc , and muscular exertion, gardening, carpentering, drawing, book binding, etc He refers to the bicycle as a wholesome exercise when rationally used "but who uses it rationally? certainly not the bicyclanthropos curvatus of the present day "' He adds that this "Bahnungshygiene," as he calls it, is a seed for the future "It requires time, but the Eden of Humanity, in which, as gardeners we work, extends timeless before us Every progress in our science and our art hastens the day when the physician will be the freely chosen guide of mankind "

Not Part of State Quarantine System —Many complaints are being made concerning the quarantine detention camp at Egmont Key, and almost invariably it is thought that this camp is a part of the Florida quarantine system This is a mistake, as that camp is a creation of the United States Marine Hospital Service, is run entirely by the United States Government and is managed and controlled by the Federal authorities Neither Dr Porter nor the State Board of Health has anything whatsoever to do with the management of that station A gross injustice is, therefore done the State quarantine system and the health officer when the two are confounded Governor Bloxham has recently been petitioned in respect to the brutal, immoral and indecent environment of that camp, showing that those presenting charges believe it to be a part of the State's health protective system It is therefore necessary that the attention of the public should be invited to the great distinction between that quarantine camp and the various quarantine stations of our State Board of Health The Tampa Bay quarantine station, on Mullet Key, is, and has been for eight years, built, operated and controlled by the State Board The quarantine detention camps at Egmont Key (Tampa Bay) and those near Key West are part of the United States quarantine system, and are entirely separate and distinct from and in no way connected with the State stations —Jacksonville *Times Union and Citizen*, October 1

Sanitary Surgery —The following appeared as an editorial in the *New York Evening Post* of March 4, 1898

SANITARY SURGERY

> Attention has recently been called in these columns to the importance of the establishment in the United States of a National health organization, which should be so broad in scope and so wise in detail as to render speedily and practically available to the citizens of the whole country those new measures for the prevention of diseases which science has within the past few years made known We have deprecated the notion still prevalent in many minds as a heritage of an earlier day, that quarantine is the be all and the end all of national health organizations
>
> That this suggestion was not premature is attested by the fact now become widely known that the committee of the Senate at Washington, having the matter in charge, has reported favorably, not a bill to create a National health bureau with all its wide and beneficent possibilities but a bill to increase the quarantine powers of the Marine Hospital Service This bill, known as the Caffery bill or Wyman's bill, gives almost dictatorial powers to the Supervising Surgeon General of the Marine Hospital Service in all parts of the country, and, in its recent modifications, sanctions the establishment of a system of annoying espionage upon the State quarantines, largely ignoring the important ends for which a National health bureau is urgently demanded by the medical profession
>
> This Wyman Caffery bill seems to have been framed largely from the point of view which dominated the New York quarantine under the redoubtable Jenkins, a few years since, and which was a source of much keen mortification to the medical profession of the country Apart from the implication which this bill carries, that quarantine is one of the most important functions of a National health organization, its provisions if legalized, would place grave commercial as well as sanitary interests in the hands of a single individual, who, not inconceivably, might be more a politician than a sanitarian, more concerned in strengthening his service and his following than in fostering conditions of public and private sanitation, which, the world over among civilized people, are tending to reduce quarantine to an entirely subsidiary function
>
> We do not, of course, in suggesting such a sinister possibility, allude to the present organization of the Marine Hospital Service The medical profession is the best judge of the eminence, as a sanitarian of the present supervising Surgeon General They can best judge whether or not his administration has been signalized by absolute devotion to science to the exclusion of all political involvement of the great bureau which he directs But legislation like this must not be made for a day but should have in mind all possible personal vicissitudes of administration
>
> The so called Spooner bill now before Congress, providing

for a national health bureau of the wide scope which we have indicated, guards against the abuse of power in quarantine as in other matters of administration, by the creation of an advisory council representing the various parts of the country, which would share with the head of the bureau or commission the responsibilities of critical situations, and secure attention to the often diverse interests of various parts of the land

It will interest the student of the civilization which this country is evolving, sometimes it seems in very jerky fashion, to see whether the United States, through their representatives at Washington, are to practically ignore the great advance which sanitary science has made within the last two decades, and the high possibilities for the prevention of disease which are close at hand, and revert to such a blind and ignorant reliance as marked the era of sanitary savagery

MISCELLANY

An Enormous Brain —While the average weight of the European brain is 1380 grams, Bismarck's weighed 1867, Cuvier's 1830, Byron's 1807, Kant's 1650, Schiller's 1630 and Dante's 1420 But is weight synonymous with power?

Hernia of the Lung —There are forty cases on record and Potain adds another, the first observed in the suprasternal region Tuffier reduced a pneumocele lower down by suturing the pleura in stages, curing the hernia completely, but this would have been impossible in this case, and fortunately the intratracheal tension held it in check —*Semaine Méd* , September 28

Oidomycosis —The *Vienna klin Woch* , of September 29, describes the case of a woman of 64 years with symptoms of acute cystitis and pneumaturia The urine was found full of thrush flakes, forming a two inch sediment in a pint glass and quantities still floating The bladder was washed out twice with a thousandth solution of arg nitr , which cured the trouble so that the patient did not return The bacteriologic investigation showed that though the oidomycosis was so pronounced, yet the pneumaturia was due to the presence of the bacillus coli

Generalised Sclerodermia —The necropsy of a very severe case of this affection showed the nervous system intact, and the arteriosclerosis noted entirely out of proportion to the severity of the cutaneous lesions The dermatosclerosis was, therefore, a specific lesion, the direct effect of the cause of the disease, which must be some toxic substance affecting the connective tissue, as the toxins of tuberculosis are supposed to produce the "cutaneous tuberculides," according to a current theory In fact preceding infective diseases have been noted in sclerodermia rheumatism, typhoid fever, erysipelas, diphtheria, etc , and in the above case, syphilis —*Semaine Méd* , September 28

Stimulation before Operation —Before a major operation, Hanks of New York (*Am Gyn and Obstet Jour* , September) uses the following method of "moderate and judicious stimulation" in all cases Commencing six hours before the operation, he administers from one to three teaspoonfuls of good whisky in one ounce of hot water every hour until the time for operation, and two hours before the operation he passes into the rectum "high above the brim, if possible, from one to two ounces of good whisky in four ounces of warm, normal saline solution, adding, when it may be wise, a little tincture of opium " He believes the patients, so prepared, recover more quickly from the ether narcosis, and generally return to complete consciousness in less than one hour

Artificial Anus in the Symphysis —Roux of Lausanne cuts out a U shaped piece of bone in the upper edge of the symphysis without disturbing the rectus muscle, and brings a loop of the intestines through the hole in such a way that the vertical proximal intestine fills the upper four fifths of the U, while the distal intestine is compressed flat in the lower fifth The loop is then sutured to the bone below and the rectus muscle above If a neoplasm has to be removed, it is inspected at this time, but not removed until later, after the artificial anus is working perfectly The bony setting for the anus possesses great advantages The feces are easily discharged, bending forward, the bandages keep their place better and the subject can conceal his condition much more satisfactorily —*Cbl f Chir* , from *Revue Méd de la Suisse Romande*, 1898, No 1

To Close Defects in the Skull —Prof A Barth recently announced that a successful bony regeneration of a defect was only to be obtained by supplying calcareous salts for a foundation, which is best accomplished by filling the space with a spongy calcined bone, easily prepared and sterilized He proved his assertions on animals and—in one case of pseudoarthrosis of the tibia—on man J Grekoff reports (*Cbl f Chir* , October 1) his success in two children, both extensive defects, one quite ancient The calcined bone (shoulder blade of a calf) has healed firmly in place (five to seven months) and percussion elicits the normal sound He recommends the method in high terms to others, advising filling the defect as smoothly as possible, freshening the edges, absolute asepsis and young subjects No test has yet been made on an adult

Laryngeal Diphtheria —In the *Am Gyn and Obstet Journal* for September, Rosa Engelmann presents an analysis of 100 cases of laryngeal diphtheria She found that sex played an unimportant rôle, although the 100 cases showed a preponderance of males Age, she considers a decided factor, and the day on which the antitoxin was given had a more appreciable effect on the cases not intubated than on those intubated In the former, even as late as the fifth and thirteenth days, "surprisingly good results were obtained "

Heliotherapy Founded by Diogenes —Sir Samuel Wilkes, in the *Practitioner*, announces himself as a follower of the cynic philosopher, Diogenes He says "The remedy for consumption is not medicine, but fresh air In various parts of the globe this may be obtained Seeing that all the places best fitted for consumptives are blessed with sunshine, it is quite possible that the latter may be one of the conditions favoring recovery, it may be directly destructive to bacilli, as the warmth and the beauties of the landscape brought out by it indirectly excite the interest of the patient and revivify his nervous system Air and sunshine are the needs of the consumptive, without them no other remedies will succeed When reading at school of Diogenes in his tub, and the visit of Alexander the Great to him, I thought he was a man of very bad manners in telling the monarch to get out of his sunshine, and it was not until late years that I took a different estimate of the philosopher After an attack of influenza I went to Worthing to convalesce, requiring air and sunshine Everything else was put aside for these, they were my only wants When, therefore, as I sat looking on the sea and basking in the sun, a friend stopped in front of me to talk, he was stripping me of my only shred of comfort, and I exclaimed, 'Get out of my sunshine' I then discovered the greatness of Diogenes, who evidently knew that the sun was the source of all power "

Serum Treatment with Serum from Convalescents —Walger reports four cases of abdominal typhus treated with typhus serum, and with such favorable results that he recommends the method to others He injected 10 c c , repeating the injection in one case of relapse Weisbecker has been very successful in cases of measles, scarlet fever, typhus and pneumonia, with serum from a convalescent, and he now reports equally favorable results in thirty cases of diphtheria One injection is sufficient—from 4 to 6 or from 8 to 10 c c , according to the age of the child The serum must be obtained exclusively from diphtheria patients whose disease healed spontaneously, that is, without any injections The epidemic of diphtheria was exceptionally severe, but with these single injections the mortality was only 12 to 13 per cent The gen eral health improves at once after the injections the croupy cough is transformed at once into an ordinary catarrhal cough, and a copious perspiration occurs in nearly every case, followed by a falling temperature.—*Munich Med. Woch.*, September 27.

Optic Neuritis and Brain Tumors.—Krauss (*Phila. Med. Jour.*, October 1), in a study on brain anatomy and brain tumors, concludes that optic neuritis is present in about 90 per cent. of all brain tumors, more often in cerebral than in cerebellar, the location of the tumor exerting little influence over the appearance of the papillitis. Over the production of the papillitis the size and nature of the tumor also has little influence, while slow growing tumors are less likely than the more rapid to be accompanied with optic neuritis. He believes it "probable that unilateral choked disc is indicative of disease in the hemisphere corresponding to the eye involved," and considers it doubtful whether increased intra-corneal pressure is solely and alone responsible for the production of an optic neuritis in cases of brain tumors.

Stone in the Bladder.—With the belief of many, that recurrence of stone is especially liable to occur after litholapaxy, Cabot (*Boston Med. and Surg. Jour.*, September 29) does not agree. In his experiences, cases of recurrence after litholapaxy have, with one or two exceptions, been due to a general diathesis or local conditions. Recurrence follows the suprapubic operation also, and he concludes from his cases that the constant reappearance of a phosphatic stone in the bladder usually indicates the resistance of some local cause which should be sought and removed." He believes the suprabubic affords the best opportunity for inspection and operative treatment of the condition found. For removal of stone he thinks litholapaxy the safest operation, and usually competent to work a complete cure.

Electricity in Gynecology.—In considering the limited but fairly well defined field in which electricity may be used, not only with safety but also with advantage, Ford (*Medical News*, October 1) includes the following conditions: amenorrhea in young women not dependent on their anemia "but rather in connection with plethora, in which there is an undersized or undeveloped uterus due to perimetric inflammations, which have resulted in slight bonds of adhesions about the broad ligaments, cutting off the blood supply;" amenorrhea following long, exhausting nervous affections, with or without anemia; simple metritis, where ovaries and tubes are not infected; dysmenorrhea dependent on neuralgic tendency or on slight bands of constriction about the Fallopian tubes without pus formation; hydrosalpinx; subinvolution dependent on infection after childbirth, when there are no pus collections about the tubes or ovaries, and small fibroids in the uterine wall.

New Electric Lighting Filament.—One of the chief difficulties in electric lighting is to find a filament which will emit the light without being itself consumed. A scientific journal reports the discovery of a new substance which appears to have the qualities desired in greater proportion than any yet used. This is called osmium, the densest and most refractory of all metals, being infusible except at the highest attainable temperature. Osmium is found native as an alloy in certain ores of platinum and iridium. It is a hard bluish gray metal with an extraordinary atomic weight and enormous specific gravity. It is said to be the heaviest substance known. The properties that suggested its use for incandescent lamps are its practical infusibility, and its known resistance to temperatures in which platinum and iridium volatilize and disappear. It is well known that the intensity of light emitted by an incandescent substance increases rapidly with its absolute temperature. By heating osmium in a vacuum with an electric current strong enough to volatilize platinum it is said to attain a luminosity hitherto unknown, emitting a white light of an agreeable color, but of great intensity.—*Scientific American.*

Spirilla in Pleuritic Exudation.—In a case of pleurisy treated in the military hospital of Munich, Dr. Welke detected very peculiar micro-organisms, which he has described in the *Munich Med. Woch.* A soldier presented symptoms of pleurisy and pneumonia; he suffered from rigors, high fever, pains in the chest, etc.; on percussion there was dulness in the left side, auscultation showed bronchial respiration with rhonchi, and an exploratory puncture gave evidence of highly fetid purulent exudation. Before an operation could be performed a large quantity of this fluid was suddenly discharged through the bronchi, the fever decreased, and the patient recovered, although very slowly. During convalescence, pleurisy of the other side appeared, but passed off in a few days. In the fluid obtained by the puncture, Dr. Welke discovered, in addition to leucocytes and streptococci, a great number of filiform micro-organisms which were extremely motile, displacing the leucocytes in the course of their movements. Some of them had a fusiform process at each end, and their length was from 100 to 140μ (1/250 to 1/180 in.). By and by, their motility became less and stopped altogether in from twenty-five to thirty minutes, when the pus had become cold. The fluid discharged through the bronchi could not be examined until after the lapse of two hours, by which time the organisms were, of course, dead. It was not found possible to classify the organisms; their great strength proved that they did not belong to the bacilli, and Professor Hertwig, to whom they were shown, believed them to be either spirilla or protozoa. How they had come into the pleuritic exudation could not be ascertained; probably they had made their way into the pulmonary abscess during the act of inspiration, and finding this medium favorable to their development they had increased very rapidly.—London *Lancet*, September 24.

Rape by Boy Between 7 and 14 Years of Age.—If it be conceded, says the court of appeals of Kentucky, in Davidson vs. Commonwealth, Sept. 11, 1898, that the testimony showed that the accused was not 14 years of age, yet clearly showed that he was much more than 7 years old, and that the jury were authorized by the evidence to believe beyond a reasonable doubt that he was physically capable of committing the crime of rape, and that he was mentally capable of understanding that it was wrong to do so, a verdict of the jury finding him guilty of the offense as in this case is sustained by sufficient evidence.

Sufficiently "Visible Mark."—An accident insurance policy contained a provision that it should not cover "any injury, fatal or otherwise, of which there is no visible mark upon the body." The shoulder of the policy holder of the plaintiff in the case of Thayer vs. the Standard Life & Accident Insurance Company, was injured by a fall, causing pain, and depriving him of the use of the arm, but the only visible mark of the injury was a discoloration of the arm and shoulder. A point was sought to be made of this. But, in overruling exceptions to a judgment for the plaintiff, the supreme court of New Hampshire holds that the "visible mark upon the body" required by the policy need not be a bruise, contusion, laceration, or broken limb, but may be any visible evidence of an internal strain which may appear within a reasonable time after the injury is received.

Special Physical Examination Indispensable.—Where a civil service regulation requires an application for appointment to a position of a certain class to be accompanied by a certificate of a practising physician of good repute that he has examined the applicant, and found him free from any physical defect, etc., and a further regulation requires that, "whenever physical qualifications are of prime importance to the proper discharge of the duties in any position, applicants must pass an additional examination as to their physical condition and capacity," the second appellate division of the supreme court of New York hold, in People vs. Gleason, July 23, 1898, **that the** examination required by this second regulation must be had under the direction of the civil service commissioners, and that no other method of examination is a compliance with the rules, and it is immaterial that any other physician's certificate may have been accepted by the board as final, such acceptance being a clear disregard of the civil service regulations

Why a French Physician was Fined —A physician in France was recently fined, although not very heavily, for refusing to testify in a matrimonial action to the circumstances of an altercation which he had witnessed between the husband and wife on the occasion of a visit which he made to the family in his professional capacity The quarrel occurred immediately upon his arrival at the house, and he went away without either prescribing or giving any medical advice whatever For this reason the divorce court held that he was absolved from all obligations of professional secrecy, and was bound to disclose what he saw, just as any non professional witness would be He contended, on the other hand, that inasmuch as he had been summoned solely as a medical adviser, his presence at the scene was wholly due to his professional character, and that if he had not been there as a doctor he would not have been there at all, in which event he would have nothing to tell The smallness of the fine imposed, which was only 10 francs, indicates that the court did not deem his refusal to testify a very heinous offense, and before he was compelled to give the desired evidence the case was settled —*New York Sun*

"Deferred Annuities" for Medical Men —Annuities, so popular among the professions in Great Britain and the Continent of Europe, do not find much favor on this side of the water In addition to this being the case as to regular annuities, whereby a certain sum is paid down in cash for an annuity to commence its year at once, "deferred annuities" are rarely if ever heard of in America, although they have been adopted to a great extent in Europe and are readily obtainable from life companies here A "deferred annuity" is one under the condition of which the yearly payment commences early in life, and the annuity does not go into effect until, say, ten, twenty or thirty years have elapsed The American companies, however, make very little mention of them in their circulars and manuals, and therefore even a well informed agent connected with one of our life companies may be excused for not being informed on the subject

The "Camp Ghost" at Camp Wikoff —The following sketch of the physical human wrecks that were so numerous at the Montauk recuperation camp appeared in a New York Journal "The most pitiable sight that is to be seen at camp, outside of the hospitals, is the 'ghost' type The 'camp ghost' is the man who is not ill enough to be admitted to the hospital, but is too weak to do duty He has nothing to do but wander, and he really lacks the strength for this, but he always essays it, with the result that he drops by the wayside and lies until a jolting army wagon or hospital conveyance picks him up Or, feeling his energy waning, he essays a short cut over the succession of ground swells that exist here There was one of the Twenty Second Regulars whose knees gave out when he was in the hollow between the hillocks one morning On his hands and knees he crawled through a marsh to the summit of the neighboring hillock and there fainted Swirling banks of fog were chasing each other over the land, limiting the range of vision to a few yards all the morning, and it was not until noon that two volunteers found him and carried him to the roadway 'Such cases,' says one of the surgeons here, 'are just about beyond treatment I have not yet been able to comprehend the condition of mind and body which produces the 'camp ghost' The cause is the hardships of the Cuban campaign, repeated attacks of fever, and lack of nourishing food at the time when it was most needed Yet these ghosts are not ill in the ordinary meaning of the term There is no specific ailment They are simply devitalized It is useless to take them into the hospitals Their best chance is in plenty of fresh air and cheering companionship, although there is little enough of the latter If we could surround those fellows with the people they love and who love them, we could guarantee 99 per cent of cures It would revive their interest in life As it is, their sad faces are a contagion They droop a little more each day, until one day they droop into the hospital The next day they are more than likely to be dead On the records we put it down as exhaustion, and I guess that is pretty near it, exhaustion of all the vitalizing instincts that bind a man to this earth' "

Temple of Esculapius —The German archeologists working in Greece have excavated the celebrated Temple of Esculapius on the Island of Paros, described by several Greek authors It measures 41 25 by 19 5 meters, and is in an excellent state of preservation, though pillaged of all its treasures

Personal —Dr F E Waxham of Denver, Colo, has returned to Chicago, with office in the Columbus Memorial building and residence at 3633 Grand Boulevard

New Publication —The *Texas Clinic*, Vol i, No 1, October, 1898, comes to our exchange table It is to be published monthly at $1 00 a year, and is edited by J B Shelmire, M D, Dallas, Texas

Societies

The following recent meetings are noted

Illinois —Æsculapian Society of the Wabash Valley, Paris, October 27, Brainard District Medical Society, Petersburg, October 27, Chicago Gynecological Society, October 21, Military Tract Medical Association, Canton, October 20, Scandinavian Medical Society, Chicago, October 21, Stephenson County Medical Society, Freeport, October 13, Will County Medical Society, Peoria, October 25

Maryland —Johns Hopkins Medical Society, Baltimore, October 17

Michigan —Saginaw County Medical Society, Saginaw, October 14

Missouri —Medical Society of City Hospital Alumni, St Louis, October 20, St Louis Medical Society of Missouri, October 22

New Hampshire —N H Surgical Club and Center District Medical Society, joint session, Concord October 11

New Jersey —Camden District Medical Society, October 11

New York —Central New York Medical Association, Auburn, October 18, Jefferson County Medical Society, Syracuse, October 11, Oneida County Medical Society, Rome, October 11, Washington County Medical Society, Whitehall, October 6

Pennsylvania —Franklin County Medical Society, Chambersburg, October 18, Lycoming County Medical Society, Williamsport, October 14

Vermont —State Medical Society, Brattleboro, October 13 and 14, Vermont Sanitary Association, Montpelier, October 25

Wisconsin —Kenosha County Medical Society, October 13, Northwestern Wisconsin Medical Association and Fox River Valley Medical Society, joint session, Oshkosh, October 25

Cincinnati

Appointment —Dr Louis Molony has been appointed acting assistant surgeon in the volunteer army to be stationed in Santiago with Brigade Surgeon Lawrence Carr of this city

Dr Wallace Neff, Brigade Surgeon U S V, has been visited with a severe attack of appendicitis, at his station near Atlanta, Ga He was attended by Dr C A L Reed of this city

Ohio Volunteers —The surgeons of the First Ohio Volunteers are busy examining the members of the regiment previous to their mustering out The soldier makes a written statement of his condition which he signs, answering as to whether he has any physical disabilities, and if so, when, where and how he received them This is followed, if the man declares that he has any such disability, by the certificate of the company's commander The man is then examined and the surgeon makes his written report as to the man's condition Major Hendley is in charge of the examining

Society for Original Research —At the regular meeting, October 13, Dr J E Greiwe presented specimens of the various forms of syphilis of the brain and spinal cord

Baltimore

Medical Schools —The winter sessions of the schools are now in full swing The University of Maryland and College of Physicians and Surgeons are recovering from the effects of the adoption of the four year course in 1895, and have increased classes, especially the former The University is much advanced by the splendid new hospital and its successful school for nurses Professor Tiffany, who, owing to some disagreement with his colleagues of the faculty, had withdrawn from didactic teaching, has resumed full charge of the chair of surgery Prof Hammeter has one of the finest clinical laboratories in the country, and gastric physiology, pathology and therapeutics are demonstrated there in all the fullness of their modern development There was no formal opening at the University Prof Bevan opened the course at the College of Physicians and Surgeons, Prof Street at the Baltimore Medical, and Prof Batchelor at the Woman's Medical I understand the class at the Baltimore Medical is smaller than usual, owing to the four year rule coming into operation there for the first time with the class of 1896 What is to be the status of our new college, "The Maryland Medical," is only a matter of conjecture It opened in September with twenty five to thirty students, It has a three year course, but the sessions are of eight months The Baltimore University has a supplementary session each year in the spring months Really the number of schools has multiplied so here that the question of a name is becoming a difficulty, almost all the available terms being already appropriated We have now here seven "regular" schools, including one for women, one homeopathic school, three dental schools and one college of pharmacy

Opening Address —The medical event of the week has been the address of Prof T Clifford Albutt, of Cambridge University, at the opening of the Johns Hopkins Prof A is returning home from the Pacific Coast, where he has been delivering a series of lectures The address was largely technical There were many non medicals in the audience, including ladies The Johns Hopkins opened with 207 students, a larger number than ever before This is the seventh session There were no graduates until the fifth session, no students being admitted to advanced standing There are now thirty five women in attendance, nine being new students The first year class numbers sixty six The new buildings of the medical school are appreaching completion and will be occupied during the present session The hospital occupies four squares, but the college buildings occupy another entire square Prof Osler has been quite ill since his return from Scotland, where he went to receive the degree of LL D He has been suffering from influenza which led to pneumonia He has, however, recovered sufficiently to leave the city and is now recuperating in the mountains of Pennsylvania He expects to return and assume the duties of his chair and deanship on November 1

Centennial —We are looking forward to a great occasion next year when we will celebrate the centennial of our Medical and Chirurgical Faculty One hundred years ago the society was chartered by the Legislature of the State and given control of professional interests in Maryland One hundred and one physicians, representing all the counties of the State, were named as incorporators in the charter Organization was effected at Annapolis, June 2, 1799, the first president being Dr Upton Scott of Annapolis an Irish physician who came over with Governor Sharpe in 1753 Prof Samuel C Chew holds the office this year, having been selected as above all others in the State fitted to fill the chair during the centennial year by reason of his high standing, his ripe scholarship and his dignity The semi annual meeting of the faculty will be held next month in Frederick City, Md Through the generosity of the Messrs Frick the medical library has made great strides the past two years and now has a really fine collection of books available It is especially rich in those departments in which Prof Charles Frick was interested—fevers, renal, nervous and intestinal diseases

Washington

St Elizabeth's Hospital —The report of Dr W W Godding, the surgeon in chief of the Government Hospital for the Insane, for the year ended June 30, 1898, shows there were 1767 patients at the close of the last fiscal year, 437 were admitted during the present year, making a total of 2204 patients treated, of this number 351 were discharged, 93 recovered, 49 improved, 3 were not insane, and 197 died The general summary shows that 32 28 recovered, 16 26 improved, 2 39 were unimproved, and 31 87 died Since the opening in 1855, 10,772 cases have been treated, of which number 3478 recovered, 1749 improved, 3433 died, and 2726 were unimproved The daily average of inmates during the present year was 1798, an increase of 88 over the preceding year He asks for additional space and an increase of appropriation to care for the large number of patients, which have come to the hospital as a result of the Spanish American war, and recommends a change in the existing laws governing the commitment of the insane patients As a result of an increase of 20 per cent of patients during the past year, he asks for deficiency appropriation of $12,000 in order to settle last year's accounts

Microscopic Society —At a recent meeting the following officers were elected President, Dr H H Robbins, vice president, Prof Hall Bartsch, corresponding secretary, H H Doubleday, recording secretary, L M Morers, treasurer, Dr Robert Reyburn, curator, W H Seaman A committee was appointed to draft suitable resolutions on the death of Dr Edwin A Gibbs, a member of the Society

Clinic Pathological Society —At the meeting of the society, on the 18th inst, the following officers were elected President, Dr John Van Renssalaer, vice presidents, Drs John R Wellington and Sterling Ruffin, recording secretary R T Holden, corresponding secretary, J T Kelly, treasurer Frank Leach

Health of the District —The report of Health Officer Woodward for the week ended October 15, shows the total number of deaths to have been 100, of which number 60 were white and 40 colored At the close of the week there were 131 cases of diphtheria and 90 of scarlet fever under treatment The annual death rate for the whites was 16 29, and for the colored 23 43 There were 5 fatal cases of typhoid fever, 6 of diphtheria and 1 of scarlet fever There were 125 births, of which 99 were white and 26 colored Dr A Barnes Hope has been appointed a physician to the poor, to act during the illness of Dr William G Morgan

Episcopal Hospital —At the recent quarterly meeting of the Eye, Ear and Throat Hospital, it was announced that Bishop Satterlee had set aside the last Sunday in October as hospital Sunday, and that all collections on that day, in the local churches would be donated to the hospital fund, the Directors are endeavoring to secure an endowment of $50,000 The total number of patients treated during the past nine months, ended September 30, was 1027, 553 white and 474 colored One hundred and thirty six patients have been received into the Hospital, 173 operations have been performed, $998 has been received for pay patients

Unlicensed Dentists Fined —A Dr Crosby, who was tried and convicted on the charge of violating the law regulating the practice of dentistry, by engaging in practice without a license, was fined $50 by the judge of the police court The local dentists are highly gratified by the enforcement of the law So far, they have been much more successful in enforcing their Act than the doctors have in enforcing their regulation

Philadelphia

Contributions from the Public Schools —Although members of the medical profession are constantly doing little acts of charity for which there is seemingly no recompense, the good seed sown must surely bring forth its just reward An example of what this means in dollars and cents, is seen in the penny contributions of school children for the benefit of sick soldiers in the different hospitals of this city and to be distributed as follows Medico Chirurgical $584 80, St Agnes $408, University $248 90, Presbyterian $152 35, St Joseph's $145 55, German $163 20, Episcopal $115 60, St. Mary's $58 50, Jefferson $138 75, Hahnemann $81 60, Polyclinic $40 80, St

Timothy $8 18, Samaritan $8 18, Women's Homeopathic $54 40, Methodist $36 75, other hospitals $76 20 Total $2,338 11

Sick Soldiers —There have been treated in all the hospitals of this city a total of about 2500 sick soldiers Since September 12, Maj D C Peyton, a brigade surgeon, has had full charge of the work here and has a corps of eight assistant surgeons to transact the business necessarily entailed upon that department The following is the method of caring for the convalescents, according to the *Ledger* "Men discharged from the hospital report first to the office with their hospital certificate, stating that they are convalescent They are then given sick furlough and sent to the quartermaster, who furnishes transportation and commutation of rations at the rate of $1 50 a day for the time necessarily taken in traveling to their homes If a soldier is weak and has some distance to go, the quartermaster, on certificate from the surgeon's office, furnishes sleeping car accommodations If in need of clothing, he is furnished what is needed from the quartermaster's department on request of a surgeon When hospitals notify the surgeon's office that certain soldiers are ready to be discharged, clothing is procured for them through the quartermaster's office and this is in many cases sent direct to the hospital, so that it is ready when discharge from the hospital is given

Memorial to Dr Joseph Leidy —At a recent meeting of the Academy of Natural Sciences of Philadelphia, Dr Edward J Nolan presented a memorial of the late Dr Joseph Leidy The gift consisted of five volumes containing drawings and writings by that author Dr Leidy at one time practised medicine in this city and for several years was professor of anatomy of the University of Pennsylvania, where he was much esteemed by the faculty and students He is probably best known for his studies in the lower forms of animal life, comparative anatomy, and for his able and painstaking work of estimating the ages of stalactites and stalagmites of the Luray Cave, Virginia Dr Leidy was a thorough scientist, investigator and teacher, and his fame extends throughout the world

Lecture by Dr Albutt —Dr Thomas Clifford Albutt, who has been traveling quite extensively in America and who occupies the chair of the theory and practice of medicine at Cambridge University, recently lectured to the graduating class of the University of Pennsylvania The speaker was introduced by Dr James Tyson, who lectured upon "Diseases of the Arteries in Association with Apoplexy " Dr Albutt recently arrived from Baltimore, where he was the guest of Professor Osler of the Johns Hopkins University

Homeopaths Want Insane Hospital —At a meeting of the Homeopathic Medical Society of this city, at which time it is stated 100 delegates were in attendance, mention was made of the overcrowded condition of the insane asylums of the State of Pennsylvania As matters now stand, these unfortunates are being cared for by the regular profession to the disadvantage of those who practice according to the tenets first promulgated (but not now practiced) by Hahnemann In order to correct this discrimination a committee was appointed and instructed to use urgent means to have the subject brought before the proper legislative bodies We await results

Testimonial Performance – Arrangements are being made by members of the Ladies' Aid Society of the Medico Chirurgical Hospital for a testimonial performance for the benefit of the sick soldiers in that institution The Medico Chirurgical has shown great enthusiasm in bringing the sick soldiers to the city through the medium of hospital trains, and deserves great credit for the manner in which it has increased its facilities on so short notice This action, therefore demonstrates the enterprise and capabilities of the men who comprise its managers and teaching faculty

Want of Co operation —Some time ago citizens of Germantown held a meeting, at which time a committee was appointed to devise ways and means for the erection of a children's hospital It is stated, however, in the lay press that letters have been received from residents and business men who were appointed, declining to act as members of the board of directors It is stated that contribution boxes have been placed in different stores and offices for the benefit of the hospital fund, and committees have been appointed to draft rules and by laws and to procure a charter Invitations have been addressed to fraternal orders in Germantown asking financial aid for the institution

Evading Vaccination Law —The fact has reached the board of health of this city that the compulsory vaccination law regarding school children is being evaded by the wholesale A resolution has been passed by the board of education asking that the board of health be notified of the "large percentage of non vaccinated children attending the schools, the children having been admitted upon certificates signed without proper evidence " It is further stated that the board of education has passed a resolution that the board of health be requested to disinfect the schools of this district or to provide the means for doing so The disinfectant which was recommended was chlorid of lime and it was thought best to instruct the janitor in the proper use of this

Addition to Samaritan Hospital —Owing to the increased amount of work by this institution, the managers have decided to buy the dwelling house adjacent to the property and convert it into a department of the hospital The entire property has a frontage of fifty feet and extends eastward a distance of 230 feet

New Medical Laboratory —Among the many other improvements going on at the University of Pennsylvania, another laboratory is to be built To stimulate a spirit of friendly rivalry, Provost Harrison submitted the matter to the junior members of the architectural department for a proper design, but the jury of award has so far been unable to decide on whom the honor will be conferred

Verdict Against Telephone Company —Dr John Marshall, dean of the Medical Department of the University of Pennsylvania, was recently awarded $737 against the American Telephone Company for injuries sustained to shade trees at his summer home In the construction of a line for the company along the estate some sixty or seventy ailanthus and locust shade trees were destroyed, thus injuring the property

Report of the National Relief Commission —The National Relief Commission which has so liberally provided for the sick soldiers in the field and in the hospitals of the different cities, has reported contributions of money and supplies aggregating thousands of dollars The last report, made public by Mr George C Thomas, treasurer at the banking house of Drexel & Co , is Cash, etc , $76 631 57 , value of supplies to date, $40,325

Mortality Statistics —For the week ending October 22, there were reported to the Bureau of Health a total of 389 deaths, of which 122 occurred in children under the age of 5 years The total number of deaths is an increase of 58 over that of last week and an increase of 13 over the corresponding period of last year

Soldier Patients —The government recently transferred twenty five sick soldiers from Camp Meade to this city, where they are being treated at the Woman's Hospital

Society for First Aid to Injured —A society has recently been formed here for the purpose of giving instruction in "home nursing' and to render "first aid to the injured " Lectures will be given at stated times in suitable rooms, both in this city and throughout the State of Pennsylvania

Reception —Members of the Philadelphia Medical Club recently tendered a reception to Dr W L Rodman, professor of surgery in the Medico Chirurgical College A representative body of physicians attended

Red Cross Hospital —Members of the Red Cross Society of this city have secured a site for a hospital at the corner of Twentieth and Cherry Streets, and are rapidly putting in equipments necessary for the care of patients soon to be admitted A committee has been appointed, consisting of several physicians and lay members, who will act as the board of managers

Louisville

Garvin —Dr Samuel H Garvin has just been re elected jail physician for the ensuing four years The place is awarded by vote of the justices of the peace of Jefferson County Dr Garvin is a native of Louisville, and has spent the best part of his life in this city He has served as jail physician nearly twenty two years, under both republican and democratic administrations There was but one opposing candidate

Morgan —Dr L C Morgan of Dugansville was the victim of a dastardly attempt at robbery on the 4th inst While on his way home from a neighboring town, about 10 P M , he was decoyed into a house by three negro men, who told him a colored woman was very ill and in need of a physician's services When the Doctor entered the house the negroes set upon him for the purpose of robbery The Doctor drew a pistol, but one of his assailants shot him with both barrels of a shotgun before he could make any resistance He remained conscious long enough to give a description of his assailants, and they are now under arrest and close guard, as there is great talk of lynching

Koehler —Dr Henry H Koehler has announced that his practice will be limited to genito urinary and skin diseases from this time, with an office at 1001 Fourth Avenue

Johnston —Dr Geo Ben Johnston of Richmond, Va , en route to the Mississippi Valley Medical Association, where he delivered the address in surgery, was the guest of Dr L S McMurtry at a dinner on the evening of the 10th

Medico Chirurgical Society —This society's membership has been depleted by the death of Dr John A Larrabee, and the resignation on account of removal from the city of Drs Wm L Rodman and Jno L Howard Dr P L Butler and Dr T C Evans have been elected for two of the vacancies, and Dr H H Grant is in nomination for the third

Marvin —Dr J B Marvin and family have returned from a three months' sojourn in Europe

Pharmacy —The regular meeting of the State Board of Pharmacy was held in Frankfort, last week, for the purpose of examining applicants for license

Quarantine —Upon the advice of the State Board of Health the Commercial Club, one of the principal organizations of business men in the city, has issued a proclamation, inviting yellow fever refugees from the South to Louisville, as was done last year As a result there has been a great number of the Southern residents in the city during the past three weeks

Cattle —Drs F T Eisenman and J G Gashin respectively State veterinarian and State bacteriologist, have returned from the meeting of the Interstate Association of Live Stock Sanitary Boards, and are preparing their report for submission to the governor, in regard to "ticky" cattle One of the chief points developed at this meeting was the fact that cattle dipped in dynamo oil and sulphur can be safely mixed with northern cattle, and when inspected by either State or Federal authorities, can be shipped north at any time of the year It was decided that the open season should extend from November 1 to January 1, when cattle can be shipped north for immediate slaughter It was determined to ask the Secretary of Agriculture to so change the quarantine laws of Oklahoma, Kansas, Missouri, Tennessee and Texas that cattle from all points below the quarantine line may not be shipped to points above the quarantine line, unless intended for immediate slaughter The only way cattle may be admitted above the quarantine line is by inspection by Federal and State authorities after being dipped A resolution in line with the above was sent the Secretary of Agriculture by the Louisville Live Stock Association endorsed by the State Board of Health

State Board of Health —The State Board of Health held its annual session at the Galt House on the 20th inst , with the following members present J M Mathews, president, J N McCormack, secretary, of Bowling Green , J H Letcher of Henderson , J H Samuel of Maysville and Wm Bailey of Louisville The report of Secretary McCormack was a review of the Board and detailed much important work done, characterized by the Secretary as the most active and anxious in the history of the Board This anxiety was caused by the yellow fever epidemic in the South and the number of refugees passing through the State , the prevalence of smallpox which was so widely epidemic in the State and in separated districts The inspection service of the Board and disinfection on board trains was reviewed by the report, and the obstacles thrown in the way of the Board by one railroad was mentioned Attention was called to the fact that the epidemic of smallpox necessarily made a heavy drain on the appropriation of the Board, and that it is practically without funds at present. It was stated that the General Assembly is adding new work to the Board every year, but is making no increase in the appropriation The increasing prevalence of scarlet fever, diphtheria and typhoid fever was mentioned and the alarming death rate from these causes, causing more deaths than yellow fever and cholera have in the history of the State Dr McCormack commended the work of the State veterinarian in cases of Texas fever, anthrax and glanders which have appeared among the cattle and horses in the State It was stated that owing to the increase of the routine work of the executive officer of the Board it would become necessary shortly for him to devote his whole time to it The amount expended by the Board was $3,544 20 Action was taken at this session on the cases of several who have been guilty of unprofessional conduct or quackery in the State Dr Adaline Bell of Paris, who appeared before the Board to stand the required examination for candidates to practice osteopathy, had failed to come up to the standard in the subjects upon which she was examined, and she was refused a license Dr G N Murphy of Bowling Green, who claims to cure what physicians generally recognize as incurable, and guilty of other unprofessional conduct, was represented by an attorney and his case set for hearing on November 7 Mr Aaron Kohn, attorney for the Board, presented the report as an answer to Harry Nelson, who has been practicing osteopathy The answer says for the Board that osteopathy is simply a perfected system of quackery and empiricism, and denies that it requires any learning or ability to "become versed in the pretended doctrines" of the system The reply says that Nelson has never applied to the Board for a license to practice and has refused to submit himself or his qualifications to the provisions of the statute enacted by the legislature The reply concludes that to allow Nelson to practice would be to sacrifice the lives, health and limbs of the citizens of Kentucky Notice was prepared to be served on P H Woodhull of Bowling Green, also an osteopath, to appear before the Board on November 8, and answer charge of unprofessional conduct The Board adjourned to meet again on November 7

Chloroform —A death from chloroform occurred at St Joseph's Infirmary on the 20th inst The patient was a police man who was to have a toe amputated, and was found in good condition to take an anesthetic, which was administered by the interne of the hospital There was a prolonged stage of excitement and much struggling and the patient died in this state before the operation had been begun

Druggists —Several of Louisville's retail druggists have just returned from St Louis, where they attended a meeting at which the National Retail Druggists' Association was organized The Louisville druggists represented the Louisville Botanical Association and the Kentucky Pharmaceutical Association One of the representatives, in an interview, stated that much was done at the meeting which would aid the druggists of this city in getting away from the cut-rate business, which has demoralized the retail drug trade in the past two years Resolutions were adopted calling upon manufacturers to cease selling to department stores, to rabid cut rate druggists and to retailers in large quantities They also requested the assistance of all retailers and jobbers and manufacturers in having the medicine tax remitted, or if that be not possible, to have the Government remit the tax on such simple remedies as druggists may put up themselves according to public formulæ This meeting was held at the time the Wholesale Druggists' Association and National Proprietary Medicine Manufacturers were in session, yet the roll call showed twenty one States represented and about 150 in attendance

THE PUBLIC SERVICE

Movements of Army Medical Officers —The following *named* officers have been ordered to duty in connection with the mustering out of volunteer commands Major Ezra Woodruff surgeon U S A Ft Trumbull Conn for Rhode Island Vols Major Augustus A De Loffre, surgeon U S A Austin Texas for Texas Vols Major Charles K Winne, surgeon U S A Ft Crook Neb for Nebraska Vols Major W I *de* Niedeman brigade surgeon U S V , to Jefferson Bks Mo *for the* 1st Missouri Inf Major Timothy E Willcox surgeon U S A to New York City for New York Vols Major Louis W Crampton surgeon U S A Ft McHenry Md for the 5th Maryland Inf Major Geo W Crile brigade surgeon U S V from Cleveland Ohio to Ft Sheridan Ill *for the 1st* Illinois Cav Major Elmer F Heg brigade surgeon U S V from the general hospital Ft Myer Va to Omaha Neb for the 2d Neb Inf Major John P Dodge brigade surgeon U S V from Camp Wikoff, Montauk Point L I to Columbus, Ohio for Ohio Vols Major Eugene L Swift brigade surgeon U S V from Camp Wikoff to Concord N H for New Hampshire Vols Capt Chas Willcox asst *surgeon* U S A *to* Columbia S C for South Carolina Vols Capt Chas Lynch asst surgeon U S A from Camp Frank Ardmore Ind Ter to *Little Rock*, Ark for the 1st Arkansas Inf Capt Henry D Snyder asst surgeon U S A from Ft Ethan Allen Vt to Burlington Vt for Vermont Vols First Lieut Weston P Chamberlain asst surgeon U S A from the general hospital Ft Monroe Va to Richmond Va for the 2d Virginia Inf and Acting Asst Surgeon Alexander McL McMaster his orders to Cuba being revoked to Philadelphia Pa for Pennsylvania Volunteers Capt Francis A Winter asst surgeon U S A, and Acting Asst

Surgeon S M Long from Camp Wikoff, Montauk Point, L I, to New Haven, Conn for Connecticut Vols Capt Wm F Lewis, asst surgeon U S A, from Huntsville to Montgomery Ala, Capt C E B Flagg, asst surgeon U S A from Ft McPherson Ga to Montgomery Ala, and Acting Asst Surgeon Robt N Pitts, now at Montgomery Ala for Alabama Vols Major Jas M Jenne, chief surgeon of volunteers, from St. Albans, Vt and Capt Geo J Newgarden from Ft Adams, R I, to Boston, Mass, for Massachusetts Vols Major Chas R Parke, brigade surgeon volunteers, from Camp Meade Middletown Pa to Augusta, Me, and Capt H R Stiles, asst surgeon U S A to Ft Preble Me, for the 1st Maine Inf Major Robert Burns brigade surgeon volunteers, to Concord N H for New Hampshire Vols Lieut Samuel M Waterhouse, asst surgeon U S A, to Ft Logan H Roots, Ark for the 1st Arkansas Inf Acting Asst Surgeon Arlington Pond from Ft Myer, Va, to Richmond, Va for the 3d Virginia Inf

Relieved from duty with field commands and ordered to posts Lieut Col Benjamin F Pope chief surgeon U S V to Columbus Barracks, Ohio Major Chas L Heizmann, surgeon U S A from Camp Wikoff N Y, to Fort Adams, R I, Major Henry S Kilbourne, surgeon U S A, to Madison Bks, N Y Major Marshall W Wood, surgeon U S A, to Fort Douglas, Utah, Major Rudolph G Ebert surgeon U S A, to Vancouver Barracks Wash Major W C Burden, brigade surgeon U S V, to Washington Barracks, D C Major Walter D McCaw, brigade surgeon U S V, to Fort Porter, N Y Major Francis J Ives brigade surgeon U S V, to Willets Point N Y Major Guy L Edie, brigade surgeon U S V from the 1st Army Corps at Lexington, Ky, to the Presidio San Francisco Cal Major Chas B Ewing brigade surgeon U S V, to Fort Brady, Mich Majors Aaron H Appel and Paul Shillock, surgeons U S A to Fort Grant, Arizona Major Eugene L Swift, brigade surgeon U S V from mustering out duty in New Hampshire to Fort Slocum N Y, Major Louis S Tesson, U S A, to Fort Ethan Allen, Vt Capt Henry R Stiles asst surgeon U S A to Fort Preble, Me Capt Geo J Newgarden, asst surgeon U S A, to Fort Adams Vt and the following acting asst-surgeons Joseph M Heller from Camp Wikoff, N Y, to Fort Ethan Allen Vt O C Heise and Milton D Norris from the Sternberg Hospital, Chickamauga Park, Ga to Jefferson Barracks, Mo, and James T Arwine to Fort Ringgold, Tex

To Camp Meade, Middletown, Pa Major Junius L Powell surgeon U S A from Camp Wikoff, N Y, and acting assistant surgeons Wm Alden from Portland, Me, and Dwight B Taylor from Camp Poland Knoxville Tenn

To the 7th Army Corps Gen Fitzhugh Lee Jacksonville Fla Major W Fitzhugh Carter surgeon U S A from the 4th Corps at Fernandina, Fla and the following acting assistant surgeons Geo G Chaims and William S Terriberry from Washington, D C, John D Thomas from Charleston S C Frederick R Dolson from Fort St Philip La John Lyng from Kensington Minn Thomas R Marshall from Camp Wikoff N Y Thomas Y Aby from Fort Lawrence Kas and William E de Salazar from New York City

To Camp Poland Knoxville Tenn, Major Adrian S Polhemus surgeon U S A, and acting asst surgeons John B Alcorn and Hyman Finklestone from Washington, D C William P Lawrence from Nashville, Tenn, and John B Hallwood from New York City

To duty with troops at Camp Hamilton Ky Major John M G Woodbury, chief surgeon U S V, Acting Asst Surgeon Jame W Macarra from the Fort Thomas General Hospital, Ky

To the General Hospital Fort McPherson, Ga Acting Asst Surgeons Ernest W Fowler Robert C Pind and Victor F Watkins from the Sternberg Hospital, Chickamauga Ga

To the General Hospital Fort Thomas Ky Acting Asst Surgeon Arthur F Smith from Ravenna Ohio

To duty with troop at Huntsville, Ala Major R J Gibson, surgeon U S A, from Fort Meade S D to the 8th U S Cav, Lieut Guy C M Godfrey, asst surgeon U S A, to the 10th U S Cav Lieut Albert E Truby, asst surgeon U S A to the 8th U S Inf Lieut James M Kennedy, asst surgeon U S A to report to the commanding general Acting Asst Surgeon Wm B Winn from Fort Niagara N Y to the 8th U S Cav and the following acting asst surgeons to report to the commanding general A H Simonton from Camp Wikoff N Y, and Chauncey T Scudder and G J de Quesada from Washington, D C T H Landor from the Sternberg Hospital Chickamauga Park Ga and W C Douglas from Camp Wikoff, Montauk Point, L I

To the Josiah Simpson General Hospital, Fort Monroe Va Capt Benjamin Munday asst surgeon U S A, from Jacksonville, Fla Lieut Powell C Fauntleroy asst surgeon U S A and Acting Asst Surgeons W H Prescott and Raphael A Edmondston from Camp Wikoff, Montauk Point L I

To duty with troops at Anniston, Ala Lieuts and asst surgeons U S A, Henry A Webber to the 1st U S Inf and Edward T Schroiner from the General Hospital, Fort McPherson Ga to the 2d U S Inf Acting Asst Surgeon Peter Beckman to duty with the 2d U S Inf and the following acting asst surgeons to report to the commanding general Frank G Jones and Charles I Woolford from Washington, D C Rufus D Boss from Camp Wikoff, N Y, and Pemberton Lundy from Buffalo N Y

To the 7th Army Corps at Jacksonville, Fla Major Ezequiel de la Calle, brigade surgeon, U S V from New York City, N Y, and Acting Asst Surgeons, Vernon J Hopper, Henry B Stotter and Benjamin A Kittrell from Washington D C

To Santiago Cuba via New York City Louis A Moloney, acting asst surgeon from Cincinnati, Ohio and Acting Asst Surgeon Edward R Bragg from Camp Wikoff, N Y

To Ponce, Porto Rico Major Louis Brechemin, surgeon U S A and Acting Asst Surgeons Charles S Stern from Camp Geo H Thomas, Chickamauga, Ga Capt Frederick P Reynolds, asst surgeon U S A, and Acting Asst Surgeon John W Wright from Fort Monroe Va, his previous orders to Santiago having been countermanded

To Havana Cuba Lieut Col R M O Reilly, chief surgeon U S V as a member of a board under orders from the Secretary of War and Acting Asst Surgeon Joaquin L Duenas from Philadelphia, Pa, to duty with the board to select camp sites

On sick leave Major Philip G Wales brigade surgeon U S V from Camp Wikoff N Y Major Peter D McNaughton brigade surgeon U S V Major Charles B Ewing brigade surgeon U S A from Camp Geo H Thomas, Ga Capt Geo M Wells asst surgeon U S A Capt Chas F Kieffer asst surgeon U S A from Camp Wikoff, N Y, Capt George H Wuchter asst surgeon 8th Ohio Inf Capt O B Weed asst surgeon 32d Mich Inf Lieut Thos S Kirkpatrick asst surgeon U S A from Santiago Cuba and the following acting asst surgeons Peter M Beckman Geo I McLeod, Wm E Stemen and James S Kennedy from Camp Wikoff N Y Major Marshall W Wood surgeon U S A Majors and Brigade Surgeons U S V William B Bannister Guy L Edie and Frank Bruso Major W C Gorgas surgeon U S A Major F D Bain, surgeon 2d Ohio Inf Lieut Cassius C Hogg asst surgeon 1st West Va Inf, and Acting Asst Surgeon John E Bacon

To be examined for promotion Wm W Quinton Thomas S Bi Deane C Howard Wm H Wilson James M Kennedy and Guy Godfrey, asst surgeons U S A

Resigned Capt A J Pedlar, asst surgeon 1st Batt Cal Art, Lieut Rowland L Robinson, asst surgeon 1st R I Inf Lieut Stephen J Keefe, asst surgeon 3d N J Inf Major Charl Foster, surgeon 5th Mass Inf Capt B H Kitrell asst surgeon 1s Inf, Capt Ira B Ladd asst surgeon 7th Cal Inf Capt Seth S asst surgeon 1st Md Inf Lieut James R McCausland asst 1st Del Inf Lieut C William Newton asst surgeon 10th Oh J Wilson Poucher asst surgeon 201st N Y Inf and James N M asst surgeon 2d Ala Inf

Honorably discharged Lieut Col Benj F Pope (Major geon U S A) as chief surgeon volunteers only, Lieut Col Rush Foper chief surgeon volunteers Major Jabez N Jackson briga geon volunteers Majors Thos Earle Evins and Lewis Schooler, surgeons volunteers, Major Wm Arthur (Captain and asst surgeon A) as chief surgeon volunteers only Major Robert Burns, surge New Hampshire Inf to accept commission as brigade surgeon v teers, and Lieut John H Gibbons, asst surgeon 3d U S V engin Major Leonard B Almy chief surgeon volunteers and Majors M Ward and Calvin H English brigade surgeons of volunteers

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